

WELL HISTORY REPORT

INEXCO et al MALLARD YT 0-18

KANDIK BASIN

YUKON TERRITORY

September 25, 1972

Prepared by:
H. H. Williams
K. N. Sobkovich, P. Eng.

Signed:

K. N. Sobkovich.

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SECTION ISUMMARY OF WELL DATA

- (a) INEXCO et al. MALLARD YT 0-18
- (b) Permittee, Licencee or Lessee: Inexco Oil Co. and Husky Oil Ltd.
- (c) Operator: Inexco Oil Company
10th Floor, Aquitaine Tower
540 - 5 Ave. S.W.
Calgary 1, Alberta
- (d) Location: Grid: 65-50-140-15
U.W.I. 3000186550140150
U.W.L. 65.79944N, 140.29472W
- (e) Co-ordinates: $65^{\circ}47'58''$ N, $140^{\circ}17'41''$ W
- (f) Permit or Lease Number: 6000
- (g) Drilling Contractor: Commonwealth Rig 31
- (h) Drilling Authority: 598; April 12, 1972
- (i) Classification: Wildcat
- (j) K.B.: 3665' (estimated)
- (k) Spudded: 11:30 a.m., May 2, 1972
- (l) Completed Drilling: 7:20 p.m., August 13, 1972
- (m) Total Depth: 10,499'
- (n) Well Status: Suspended Aug 19/72
- (o) Rig Released:
- (p) Hole Sizes: $17\frac{1}{2}''$ 0 - 961
 $12\frac{1}{4}''$ 961 - 5563
 $8\frac{3}{4}''$ 5563 - 10,499
- (q) Casing: (1) Ran 32 Jts. 959.82', $13\frac{3}{8}''$, K-55, 54.5# Casing.
Landed at 956.82' K.B. with 240 sacs Fondu
and 760 sacs Oilwell cement.
Plug down @ 1:53 a.m., May 10, 1972.
- (2) Ran 83 Jts. 3180' $9\frac{5}{8}''$, K-55, 36 and 40# Casing.
Landed at 3178' K.B. with 650 sacs Oilwell cement
Plug down @ 8:00 a.m., July 21, 1972.

SECTION IIGEOLOGICAL SUMMARYINEXCO et al. MALLARD YT 0-18Formation Tops

K.B. Elevation 3665' (est.)

<u>Formation</u>	<u>Sample</u>	<u>E-Log</u>	<u>Datum</u>
Hart River	Surface	Surface	+3665
Hart River	No Pick	≈1700	+1965
Hart River	6530	6550	-2885
Unnamed Shale	9040	8950	-5385
Unnamed Shale	9840	9790	-6125
Unnamed Shale	No Pick	10250	-6585

Cored Intervals

<u>Diamond Core No.</u>	<u>Interval</u>	<u>Formation</u>	<u>Recovery</u>
1	5695 - 5715	Hart River	18'
2	6852 - 6874	Hart River	22'
3	7029 - 7053	Hart River	20.5'
4	10475 - 10492	Unnamed Shale	7'

WELL SYNOPSISINEXCO et al. MALLARD YT 0-18

<u>Interval</u>	<u>Formation</u>	<u>Faults</u>	<u>Comments</u>
0 - 1700	Lower Hart River	1700'	Major fault thrusting Lower Hart River on Upper Hart River. Location of fault is only approximate.
1700 - 3400	Upper Hart River		
3400 - 6550	Lower Hart River	3650' 3900' 4700' 5200' 5450'	Lower Hart River section anomalously thickened by several small thrust faults. Unnamed Shale may be present near the base of this interval.
6550 - 8000	Upper Hart River	6500'	Repeat section. Major fault thrusting Lower Hart River on Upper Hart River.
8000 - 8950	Lower Hart River		Section from 6550 to 9800 represents a complete unfaulted Hart River - Unnamed Shale section. Fault at 9800 thrusts basal Unnamed Shale onto the top of the Unnamed Shale.
8950 - 10,500	Unnamed Shale	9800' 10,250'	Fault at 10250 repeats the top of the Unnamed Shale. T.D. in top of Unnamed Shale.

Note: Division of the Hart River Formation into an Upper and Lower member was arbitrary and based on the occurrence of a radioactive black shale. The division does not imply new stratigraphic nomenclature; it is used only for ease of illustrating formation repeats by thrust faulting.

CORE DESCRIPTIONS

INEXCO et al. MALLARD YT C-18

Diamond Core #1 5695 - 5715' Cut 20', Recovered 18'

Penetration Rate (mins/ft) 17, 23, 15, 15, 9, 9, 9, 8½, 10, 13, 12, 12,
11, 11, 11, 11, -, -, -

5695 - 5715' Shale - black, blocky, carbonaceous, calcareous, finely disseminated pyrite throughout, contorted bedding. Core breaks @ ≈35 - 45°.

Diamond Core #2 6852 - 6874' Cut 22', Recovered 22'

Penetration Rate (mins/ft) 22, 20, 23, 25, 18, 14, 18, 15, 16, 18, 15,
28, 18, 18, 19, 23, 29, 25, 30, 28, 48, 33

6852 - 6858' Shale - dark grey-black, blocky, in part sub-fissile, hard, variably calcareous and siliceous, slightly carbonaceous, traces disseminated pyrite. No visible bedding. Fractures @ 35 - 45°, filled with white calcite. Traces vertical tension gashes.

6858 - 6860' Shale - as above, highly fractured and brecciated with calcite and pyrite filling fractures. Traces of sphalerite (?) and galena. Bedding highly contorted(?)

6860 - 6865' Shale - dark grey to black, blocky, hard, siliceous. Abundant fine calcite filled fractures @ 90° to bedding (45 - 55°).

6865 - 6874' Shale - dark grey to black, sub-fissile, variably calcareous, fractured as above @ 90° to bedding. Thin 6" limestone band at 6872 - 6872.6, light to medium grey, very fine crystalline, sandy, tight.

Diamond Core #3 7029 - 7052' Cut 23', Recovered 20.5'

Penetration Rate (mins/ft) 19, 15, 20, 17, 6, 15, 18, 14, 16, 10, 26,
27, 25, 25, 20, 33, 27, 27, 21, 23, 28, 18,
18, 39

7029 - 7031.4 Limestone - medium to dark grey, very fine crystalline to sucrosic, sandy, slightly argillaceous, massive. Strong H₂S odor.

- 7031.4-7033.9' Shale - dark grey to black, blocky, calcareous, trace pyrite, hard. Weak H₂S odor. Bedding @ 30 - 40°. Occasional slickensides.
- 7033.9-7036' Limestone - as above.
- 7036 - 7042.4' Shale - as above with occasional thin (1") limestone stringer. Bedding at 30 - 40°. Trace slickensides.
- 7042.4-7044.9' Limestone - medium to dark grey, very fine crystalline, very sandy, argillaceous, abundant stylolites.
- 7044.9-7048' Shale - as above. Trace fracturing. Bedding (?) @ 15°. Trace slickensides.
- 7048 - 7050' Limestone - as above.

Diamond Core #4 10,475 - 10,492' Cut 17', Recovered 7'

Penetration Rate (mins/ft) 16 ($\frac{1}{2}$ '), 12, 24, 30, 23, 27, 28, 36, 23, 25, 17, 14, 39, 29, 34, 34, 39

- 10475-10492' Shale - dark grey - black, blocky, in part sub-fissile, very hard, siliceous, non-calcareous, pyritic, slightly carbonaceous. Fracture @ 45° and parrallel to bedding, in places very highly fractured and brecciated (lost core assumed highly fractured). Abundant slickensides. Quartz and pyrite infill fractures. Bedding predominantly 45° with occassional bedding @ 10 - 15°.

SAMPLE DESCRIPTIONSINEXCO et al. MALLARD YT 0-18

- 40 - 50 Shale - black, sub-fissile to blocky, micro-micaceous, minor disseminated pyrite, abundant fractures filled with white calcite. Abundant igneous rock fragments.
- 50 - 60 Shale & Glacial Till - Shale as above. Approximately 50% varicolored igneous rock fragments.
- 60 - 70 Shale - black, sub-fissile, micro-micaceous, finely disseminated pyrite, hard, in part siliceous, trace calcite filled fractures.
- 70 - 80 Shale - as above, fissile, in part phyllitic.
- 80 - 90 Shale - as above.
- 90 - 100 Shale - black, fissile, micro-micaceous, trace phyllitic, hard, in part siliceous, minor disseminated pyrite, traces white calcite filled fractures.
- 100 - 140 Shale - as above.
- 140 - 150 Shale - as above, sub-fissile to blocky.
- 150 - 160 Shale - black, fissile, micro-micaceous to phyllitic, hard in part siliceous, in part carbonaceous, minor disseminated pyrite, traces white calcite filled fractures, very slightly calcareous to non-calcareous.
- 160 - 200 Shale - as above.
- 200 - 240 Shale - as above, becoming slightly calcareous.
- 240 - 250 Shale - as above, in part calcareous to only slightly calcareous.
- 250 - 270 Shale - as above.
- 270 - 280 Shale - as above, calcareous.
- 280 - 290 Shale - as above.
- 290 - 300 Shale - as above, abundant calcite filled fractures.

300 - 310	<u>Shale</u> - as above.
310 - 320	<u>Shale</u> - as above, white disseminated calcite throughout (secondary).
320 - 330	<u>Shale</u> - as above.
330 - 340	<u>Shale</u> - as above, abundant calcite filled fractures.
340 - 350	<u>Shale</u> - as above.
350 - 360	<u>Shale</u> - as above, in part carbonaceous.
360 - 370	<u>Shale</u> - as above.
370 - 380	<u>Shale</u> - as above, traces medium grey chert.
380 - 390	<u>Shale</u> - as above, traces medium buff limestone (cavings).
390 - 430	<u>Shale</u> - as above.
430 - 440	<u>Shale</u> - as above, increase in calcite filled fractures.
440 - 470	<u>Shale</u> - as above.
470 - 480	<u>Shale</u> - as above, trace slickensides.
480 - 490	<u>Shale</u> - as above.
490 - 500	<u>Shale</u> - as above, trace massive pyrite.
500 - 510	<u>Shale</u> - as above.
510 - 520	<u>Shale</u> - as above, increase in calcite filled fractures.
520 - 530	<u>Shale</u> - as above.
530 - 570	<u>Shale</u> - as above, very pyritic.
570 - 580	<u>Shale</u> - dark grey and black, fissile to blocky, ashy leached appearance, micro-micaceous to phyllitic, abundant disseminated pyrite and white calcite, highly fractured.
580 - 590	<u>Shale</u> - as above.
590 - 600	<u>Shale</u> - black, fissile, micro-micaceous to phyllitic, disseminated pyrite, calcareous in part fractured.
600 - 630	<u>Shale</u> - as above.

- 630 - 640 Shale - as above, very pyritic and highly fractured.
- 640 - 650 Shale - as above, in part very calcareous and blocky.
- 650 - 660 Shale - as above, occasional thin stringer limestone, dark grey to black, argillaceous, very fine crystalline.
- 660 - 670 Shale - as above, very pyritic, highly fractured, becoming increasingly blocky.
- 670 - 680 Shale - as above, highly fractured, cemented with calcite, very pyritic.
- 680 - 690 Shale - as above, slickensiding, fractured and in part finely brecciated.
- 690 - 730 Shale - as above.
- 730 - 810 Shale - black, fissile to sub-fissile, micro-micaceous to phyllitic, minor disseminated pyrite, abundant calcite filled fractures.
- 810 - 860 Shale - black, sub-fissile to blocky, micro-micaceous to slightly phyllitic, disseminated pyrite, abundant calcite filled fractures, secondary white disseminated calcite imparts a dark grey-black, blocky character to much of the shale.
- 860 - 870 Shale - as above, increasingly fractured and brecciated (very fine brecciation) with calcite cementing and infilling of fractures.
- 870 - 880 Shale - black, sub-fissile to blocky, micro-micaceous, in part phyllitic, disseminated pyrite, calcareous interbeds, fractured.
- 880 - 910 Shale - as above with calcareous interbeds.
- 910 - 950 Shale - as above with up to 20 - 30% calcareous and siliceous interbeds, grading to sandy limestone, medium-dark grey mottled, argillaceous, very fine crystalline.
- 950 - 960 Shale - black, fissile to sub-fissile, micro-micaceous, trace of blocky, calcareous black shale.
- 960 - 970 NO SAMPLE RETURNS

- 970 - 980 Shale - dark grey to black mottled, blocky, hard, siliceous, micro-micaceous, disseminated pyrite, cherty, slightly calcareous, traces white calcite filled fractures and thin limestone interbeds, medium to dark grey, silty to sandy, siliceous, argillaceous.
- 980 - 990 Shale - as above, increase in calcite filled fractures, in part very silty to sandy grading to sandstone.
- 990 - 1000 Shale - as above, highly fractured, increase in disseminated pyrite, minor very siliceous sandstone and very sandy limestone.
- 1000 - 1010 Shale - black, blocky, siliceous to fissile, micro-micaceous, and shale, dark grey to black, blocky, siliceous, cherty, very silty grading to siltstone, calcareous, fractured. Minor very calcareous, siliceous sandstone, very fine grained, medium grey, poorly sorted, cherty, tight.
- 1010 - 1020 Shale - dark grey to black, blocky, hard, siliceous, disseminated pyrite, in part very silty grading to calcareous siltstone. Abundant white calcite veinlets. Minor sandstone as above.
- 1020 - 1030 Shale - as above with thin calcareous and sandy interbeds.
- 1030 - 1040 Shale - as above and sandstone, medium to dark grey, fine grained, very calcareous. Minor thin calcareous interbeds and traces white vein calcite.
- 1040 - 1050 Shale - black, sub-fissile grading to blocky, in part siliceous, micro-micaceous grading to siltstone dark grey to black, sandy, siliceous, calcareous, in part very fine grained sandstone, tight.
- 1050 - 1060 Sandstone - medium to dark grey, very fine grained, poorly sorted, siliceous, hard, slightly calcareous, quartzitic, cherty, grading to siltstone, tight. Shale as above ($\approx 30\%$).
- 1060 - 1070 Sandstone - as above, tight, minor shale as above.
- 1070 - 1080 Sandstone - as above, tight, highly fractured, abundant white calcite veinlets, minor very silty shale.
- 1080 - 1090 Sandstone - as above, tight, minor siltstone, dark grey, blocky, sandy, slightly calcareous, grading to shale, as above. Abundant white calcite veinlets.

- 1090 - 1100 Sandstone - as above with interbedded siltstone grading to shale.
- 1100 - 1110 Sandstone - Siltstone - Shale - as above interbedded. Abundant white calcite veinlets.
- 1110 - 1120 Shale - dark grey to black, blocky, micro-micaceous, silty grading to Siltstone, medium to dark grey, sandy, micaceous. Minor Sandstone as above. Abundant white calcite veinlets.
- 1120 - 1130 Shale - as above. Minor Sandstone as above.
- 1130 - 1140 Shale - as above. Minor calcareous Sandstone interbeds.
- 1140 - 1150 Shale - dark grey to black, blocky, silty, grading to Siltstone, micro-micaceous. Sandstone - medium to dark grey, very fine grained, silty, very calcareous. White calcite blebs.
- 1150 - 1160 Shale - as above, in part calcareous. Trace very sandy calcareous interbeds.
- 1160 - 1180 Shale - as above with minor calcareous siltstone and trace calcareous interbeds.
- 1180 - 1200 Shale - as above, in part carbonaceous, grading to Siltstone, sandy, calcareous. Thin interbeds calcareous, very fine grained Sandstone.
- 1200 - 1210 Siltstone - medium-dark grey to black, blocky, calcareous to dolomitic, micro-micaceous, siliceous, hard grading to very silty Shale. Trace Sandstone as above. Abundant fracturing with white calcite infill.
- 1210 - 1220 Shale - dark grey to black, blocky slightly calcareous, in part siliceous, silty to very silty, grading to Siltstone, micro-micaceous. Minor Sandstone, very fine grained, silty, calcareous, tight.
- 1220 - 1230 Shale - medium-dark grey to black, blocky, siliceous, slightly cherty, calcareous, micro-micaceous, traces disseminated pyrite, grading to sandy, siliceous Siltstone.
- 1230 - 1240 Shale - as above.
- 1240 - 1250 Shale - as above, in part sub-fissile.

- 1250 - 1260 Shale - Sandstone - Shale as above. Sandstone - medium grey, very fine grained to silty, poorly sorted, siliceous to calcareous, trace chert, micro-micaceous, blocky, slightly carbonaceous, tight. Abundant white calcite blebs.
- 1260 - 1270 Sandstone - as above, carbonaceous, very calcareous, in part siliceous, trace gilsonite, trace white vein chert, fractured. Abundant Shale as above.
- 1270 - 1280 Sandstone - as above.
- 1280 - 1290 Shale - dark grey to black, sub-fissile to blocky, siliceous, in part calcareous, silty grading to very fine Siltstone. Sandstone as above, tight. Trace gilsonite. Trace calcareous interbeds.
- 1290 - 1300 Shale - Sandstone - as above. Sandstone very calcareous grading to minor, very sandy limestone stringers.
- 1300 - 1310 Shale - as above, blocky, siliceous, calcareous with Sandstone as above.
- 1310 - 1320 Limestone - light grey to white, mottled, coarse crystalline, crinoidal, slightly argillaceous. Minor Shale as above.
- 1320 - 1330 Limestone - medium to dark grey, mottled, coarse grained to crinoidal, slightly argillaceous. Shale - dark grey to black, sub-fissile, micro-micaceous, slightly carbonaceous.
- 1330 - 1340 Shale - as above (60 - 70%). Limestone - as above, slightly more argillaceous.
- 1340 - 1350 Limestone - light to medium grey, mottled, coarse crystalline, crinoidal, tight.
- 1350 - 1360 Limestone and Shale - medium grey, argillaceous to sandy Limestone grading to dark grey to black, sub-fissile, micro-micaceous Shale with trace disseminated pyrite.
- 1360 - 1370 Shale - as above, slightly silty and in part siliceous, trace crinoid.
- 1370 - 1380 Shale - medium to dark grey, mottled, very silty, very calcareous in part, grading to very argillaceous Limestone.

- 1380 - 1390 Shale - dark grey to black, sub-fissile to blocky, micro-micaceous, in part slightly carbonaceous, siliceous, trace disseminated pyrite, trace crinoid (?) fragments.
- 1390 - 1470 Shale - as above, black, in part silty and calcareous, pyritic, hard, siliceous.
- 1470 - 1530 Shale - black, blocky, hard, siliceous, in part silty to slightly calcareous, micro-micaceous. Trace calcareous interbeds, trace white vein calcite.
- 1530 - 1550 Shale - as above, in part fissile and carbonaceous, disseminated pyrite and pyrite occasionally filling fractures.
- 1550 - 1560 Shale - as above with minor fissile, very carbonaceous Shale. Heavily fractured with abundant calcite veinlets. Minor Sandstone, medium grey, very fine grained to silty, slightly calcareous, hard, siliceous.
- 1560 - 1570 Shale - as above, trace gilsonite in fractures, pyritic, abundant white calcite crystals and veinlets.
- 1570 - 1600 Shale - black, sub-fissile to blocky, micro-micaceous, trace disseminated pyrite, slightly silty, in part carbonaceous, fractured. Abundant white calcite crystals and veinlets. Trace Sandstone at 1600.
- 1600 - 1610 Shale - black, fissile to sub-fissile, micro-micaceous, disseminated pyrite, carbonaceous, in part siliceous. Abundant calcite veinlets and calcite blebs. Occasionally white quartz filling fractures with associated pyrite.
- 1610 - 1650 Shale - as above, fissile, abundant white calcite veinlets, very pyritic, non-siliceous.
- 1650 - 1700 Shale - black, fissile, micro-micaceous, very pyritic, carbonaceous, abundant blebs and veinlets of white calcite. Shale has a bronze "phyllitic" sheen.
- 1700 - 1780 Shale - black, fissile, micro-micaceous, carbonaceous, very pyritic. Occasional thin sandy calcareous stringer.

- 1780 - 1800 Shale - as above and Limestone, medium grey, mottled, aphanitic, argillaceous, siliceous, dolomitic (?).
- 1800 - 1820 Shale - dark grey to black, fissile to blocky, micro-micaceous, carbonaceous, pyritic, in part hard, siliceous, with calcareous interbeds. Abundant white calcite blebs and veinlets.
- 1820 - 1840 Shale - as above, with minor calcareous interbeds, in part siliceous.
- 1840 - 1850 Shale - dark grey-bronze to black, sub-fissile to fissile, micro-micaceous, carbonaceous, disseminated pyrite. Minor calcareous and siliceous interbeds.
- 1850 - 1860 Shale - as above, very poor sample. Trip @ 1856.
- 1860 - 1870 Shale - as above, very heavily fractured - filled with white calcite and quartz. Thin siliceous interbeds.
- 1870 - 1880 Shale - black, fissile, micro-micaceous, pyritic, carbonaceous.
- 1880 - 1890 Shale - as above with abundant siliceous and calcareous interbeds.
- 1890 - 1900 Shale - as above. $\approx 20\%$ very calcareous, silty shaley interbeds.
- 1900 - 1910 Shale - as above, minor calcareous, shaley interbeds.
- 1910 - 1920 Shale - as above.
- 1920 - 1930 Shale - black, fissile, as above and blocky, siliceous.
- 1930 - 1950 Shale - black, fissile, micro-micaceous, pyritic, carbonaceous.
- 1950 - 2000 Shale - dark grey to black, fissile, micro-micaceous, pyritic, carbonaceous. Trace calcareous interbeds at 1960.
- 2000 - 2010 Shale - dark grey to black, blocky to fissile, calcareous.
- 2010 - 2040 Shale - dark grey to black, fissile to sub-fissile, carbonaceous, minor disseminated pyrite, in part calcareous, blocky. Occasional thin calcareous, silty interbeds.

- 2040 - 2060 Shale - dark grey to black, sub-fissile, non-calcareous to blocky calcareous, micro-micaceous, carbonaceous, pyritic. Trace medium grey, silty, very calcareous Shale.
- 2060 - 2080 Shale - dark grey to black, sub-fissile, micro-micaceous, calcareous to very calcareous, carbonaceous, minor disseminated pyrite.
- 2080 - 2090 Shale - as above, non-calcareous to calcareous in part. Becoming siliceous.
- 2090 - 2100 Shale - dark grey to black, blocky, hard, siliceous, micro-micaceous, in part carbonaceous, minor disseminated pyrite, Minor calcareous Shale.
- 2100 - 2110 Shale - as above, sub-fissile to blocky, calcareous, pyritic.
- 2110 - 2120 Shale - dark grey to black, sub-fissile to blocky, calcareous, micro-micaceous, in part carbonaceous, minor disseminated pyrite.
- 2120 - 2150 Shale - dark grey, blocky, minor disseminated pyrite, very calcareous.
- 2150 - 2160 Shale - dark grey to black, sub-fissile, only slightly calcareous, micro-micaceous, pyritic, carbonaceous.
- 2160 - 2170 Shale - dark grey to black, fissile to blocky, non-calcareous to slightly calcareous, micro-micaceous, slightly carbonaceous, minor disseminated pyrite, in part siliceous, fractured, fractures filled with calcite and quartz. Trace light grey chert.
- 2170 - 2180 Shale - as above, variably calcareous, slightly fractured.
- 2180 - 2200 Shale - black, sub-fissile, micro-micaceous, minor disseminated pyrite, slightly calcareous, in part carbonaceous.
- 2200 - 2210 Shale - as above, abundant calcite filled fractures.
- 2210 - 2220 Shale - as above, non-calcareous, minor fracturing.
- 2220 - 2240 Shale - black, fissile to sub-fissile, micro-micaceous, minor disseminated pyrite, carbonaceous, in part siliceous.

- 2240 - 2280 Shale - as above, slightly calcareous to calcareous, becoming sub-fissile to blocky.
- 2280 - 2320 Shale - as above, variably calcareous to non-calcareous, pyritic, occasional silty interbeds.
- 2320 - 2330 Shale - as above, very calcareous.
- 2330 - 2340 Shale - dark grey to black, sub-fissile, micro-micaceous, slightly carbonaceous, minor disseminated pyrite, very calcareous, in part siliceous.
- 2340 - 2360 Shale - as above, slightly calcareous.
- 2360 - 2370 Shale - dark grey to black, sub-fissile to blocky, micro-micaceous, minor disseminated pyrite, very calcareous, in part siliceous.
- 2370 - 2390 Shale - black, sub-fissile to fissile, micro-micaceous, minor disseminated pyrite, carbonaceous, slightly calcareous, in part siliceous.
- 2390 - 2400 Shale - as above, slightly calcareous, siliceous.
- 2400 - 2410 Shale - as above, calcareous. Minor Limestone - dark grey, mottled, very argillaceous, silty grading to Shale - very silty and calcareous.
- 2410 - 2420 Shale - as above, very calcareous, grading to very silty, calcareous Shale. Minor argillaceous Limestone interbeds.
- 2420 - 2430 Shale - as above.
- 2430 - 2440 Shale - dark grey, sub-fissile to blocky, micro-micaceous, very calcareous, in part carbonaceous. Minor very argillaceous limestone interbeds.
- 2440 - 2450 Shale - as above.
- 2450 - 2460 Shale - as above, minor limestone interbeds as above.
- 2460 - 2470 Shale - as above with Limestone interbeds - medium grey, mottled, fine to medium crystalline, crinoidal (?), argillaceous to very argillaceous, tight.
- 2470 - 2480 Shale - as above with limestone interbeds as above.

- 2480 - 2490 Limestone - medium grey, mottled, fine crystalline, argillaceous, slightly dolomitic, trace floating quartz grains, tight. Minor Shale as above.
- 2490 - 2500 Limestone - as above, in part siliceous, tight. Minor Shale as above. Trace crinoid fragments.
- 2500 - 2510 Limestone - as above grading to Shale - dark grey to black, very calcareous, abundant crinoid ossicles.
- 2510 - 2520 Limestone - medium to dark grey, mottled, very fine crystalline, argillaceous to very argillaceous, traces light grey chert, very fossiliferous (crinoid ossicles), in part crinoidal. Shale - dark grey, calcareous, blocky, fossiliferous.
- 2520 - 2530 Limestone - as above and Shale - dark grey, blocky, calcareous, trace fracturing.
- 2530 - 2540 Shale - dark grey, blocky, calcareous to very calcareous, slightly micro-micaceous. Trace Limestone as above. Trace fractures filled with calcite.
- 2540 - 2550 Shale - as above, becoming slightly darker, minor disseminated pyrite. Trace calcareous interbeds.
- 2550 - 2560 Shale - dark grey to black, blocky, micro-micaceous, calcareous, minor disseminated pyrite, slightly carbonaceous.
- 2560 - 2570 Shale - as above, trace calcareous interbeds.
- 2570 - 2580 Shale - as above in part grading to very argillaceous Limestone.
- 2580 - 2590 Shale - as above, very calcareous, Minor Limestone - medium to dark grey, argillaceous, carbonaceous, very fine crystalline.
- 2590 - 2600 Shale - dark grey, blocky, very calcareous, slightly carbonaceous, Minor interbedded Limestone - very dark grey, argillaceous.
- 2600 - 2610 Shale - as above, with minor interbedded Limestone and thin sandy siliceous, calcareous interbeds.
- 2610 - 2620 Limestone - medium grey, aphanitic to very fine crystalline, slightly argillaceous, trace floating quartz.

Shale - dark grey, blocky, very calcareous.
Abundant white vein calcite.

- 2620 - 2630 Shale and Limestone - as above. Quartzite - medium grey, siliceous, slightly calcareous, cherty.
- 2630 - 2640 Shale - as above. Limestone - as above, very siliceous to quartzitic.
- 2640 - 2650 Shale - dark grey to black, sub-fissile, micro-micaceous, carbonaceous. Thin limestone interbeds as above. Thin siliceous interbeds.
- 2650 - 2660 Shale - black, fissile to sub-fissile, micro-micaceous, carbonaceous, only slightly calcareous. Trace siliceous limestone.
- 2660 - 2700 Shale - as above.
- 2700 - 2760 Shale - as above and Limestone - medium grey, mottled, very fine crystalline, siliceous, argillaceous, in part sandy, tight. Minor very siliceous interbeds.
- 2760 - 2790 Shale - dark grey, sub-fissile to blocky, calcareous, micro-micaceous, slightly carbonaceous. Minor Limestone as above, grading to very calcareous Shale.
- 2790 - 2810 Shale - as above, in part very calcareous. Limestone as above up to 30%.
- 2810 - 2820 Shale - dark grey to black, sub-fissile to blocky, calcareous, micro-micaceous, slightly calcareous to calcareous.
- 2820 - 2860 Shale - as above. Trace Limestone interbeds.
- 2860 - 2870 Shale - as above. Minor calcareous interbeds.
- 2870 - 2880 Shale - as above with ~30% interbedded siliceous Limestone.
- 2880 - 2890 Shale - as above and Limestone - light grey to medium grey, mottled, very fine crystalline, in part argillaceous, very siliceous, traces grey chert, in part sandy.
- 2890 - 2900 Shale - as above and Limestone as above, very siliceous, very sandy grading to very calcareous sandstone.

- 2900 - 2910 Limestone - as above grading to very calcareous Shale and very calcareous Sandstone.
- 2910 - 2920 Shale - as above, calcareous and silty. Sandstone - as above, grading to sandy Limestone as above.
- 2920 - 2930 Limestone - Sandstone with $\approx 20 - 30\%$ Shale as above.
- 2930 - 2940 Limestone - as above and Sandstone - medium grey, very fine grained to silty, very calcareous grading to very silty, sandy Limestone. Minor to 30% Shale - dark grey to black, sub-fissile, micro-micaceous. Fractured - white quartz and calcite infill.
- 2940 - 2950 Sandstone - as above, grading to siliceous Siltstone. Shale - medium grey, siliceous, blocky, slightly calcareous.
- 2950 - 2960 Sandstone - as above, becoming very silty to Siltstone, calcareous to very calcareous. Shale - medium to dark grey, calcareous, in part siliceous, abundant dark grey chert.
- 2960 - 2970 Shale - dark grey to black, sub-fissile to fissile, micro-micaceous, carbonaceous, slightly calcareous. Siltstone - Sandstone as above, up to 30%. Fairly abundant calcite filled fractures.
- 2970 - 2980 Shale - as above $\approx 40\%$. Limestone - medium grey, very fine crystalline, very siliceous and silty, slightly argillaceous, grading to very calcareous Siltstone as above, tight. Trace crinoids.
- 2980 - 2990 Limestone - light to medium grey, aphanitic with minor fine crystalline crinoidal, very silty, in part grading to calcareous, siliceous Siltstone, slightly argillaceous, trace floating quartz grains, occasional crinoid fragment. Shale - as above.
- 2990 - 3000 Shale - medium to dark grey - black, sub-fissile, silty, calcareous, micro-micaceous. Limestone - as above.
- 3000 - 3010 Limestone - light to medium grey, micro-crystalline, slightly argillaceous, in part silty. Shale (40%) medium to dark grey, blocky, calcareous, micro-micaceous.

- 3010 - 3060 Limestone - as above, trace indistinct crinoid fragments.
Shale as above (~20 - 30% interbeds).
- 3060 - 3090 Shale - medium to dark grey - black, blocky, calcareous,
in part micro-micaceous, grading to argillaceous
Limestone. Limestone (~30%) as above.
- 3090 - 3100 Limestone - light to medium grey, mottled, micro to very fine
crystalline, slightly argillaceous, slightly silty,
in part crinoidal (poorly preserved) grading to
calcareous Shale (30%) as above. Traces dark
grey chert.
- 3100 - 3110 POOR SAMPLE Limestone - as above becoming very siliceous.
Shale - dark grey to black, blocky, micro-micaceous,
only slightly calcareous, in part siliceous.
Abundant dark grey to black chert.
- 3110 - 3120 Shale - as above, siliceous and cherty with abundant
siliceous and calcareous interbeds. Minor
siliceous Limestone interbeds.
- 3120 - 3130 Shale - as above and Chert - medium grey. Abundant
siliceous interbeds. Minor very silty Limestone
interbeds.
- 3130 - 3140 Shale - black, sub-fissile to blocky, micro-micaceous,
in part siliceous, carbonaceous, only slightly
calcareous. Abundant white calcite crystals -
vein filling. Gas Show - 0.08% Methane; shale
gas. Trace calcareous interbeds (cavings?).
- 3140 - 3150 Shale - dark grey to black, blocky, siliceous, hard,
micro-micaceous, slightly calcareous in part.
Moderate amounts dark grey chert and siliceous
interbeds. Minor very calcareous interbeds.
- 3150 - 3160 Shale and Chert - as above, minor sandy, slightly
calcareous, siliceous interbeds.
- 3160 - 3170 Shale and Chert - as above, Moderate amounts calcareous,
silty Sandstone (cavings?)
- 3170 - 3180 Limestone - light to medium grey, mottled, microcrystalline,
slightly argillaceous, silty to very silty, tight,
grading to calcareous Siltstone, very cherty
(medium grey). Minor siliceous interbeds. Trace
crinoid fragments. Minor Shale as above.

- 3180 - 3190 Shale - black, fissile, micro-micaceous, carbonaceous.
- 3190 - 3200 Shale - dark grey, blocky, hard, siliceous, in part micro-micaceous, and Chert - dark grey. ≈20-30% quartzite. Minor black Shale as above. Trace Limestone as above.
- 3200 - 3220 Shale - as above and Quartzite - medium grey-brown, aphanitic, Chert - as above. Trace silty Limestone as above.
- 3220 - 3230 Shale - black, fissile, carbonaceous and Shale - as above. Chert and Quartzite - as above.
- 3230 - 3250 Quartzite - as above with Limestone - as above. Minor siliceous Shale and Chert.
- 3250 - 3260 Shale - black, sub-fissile, micro-micaceous, carbonaceous, slightly calcareous. Traces Chert, Quartzite, and Limestone - as above.
- 3260 - 3270 Shale - dark grey to black, blocky, siliceous, micro-micaceous. Abundant Chert and Quartzite. ≈20% very silty Limestone grading to calcareous Siltstone as above.
- 3270 - 3280 Shale - black, siliceous, blocky, in part fissile and carbonaceous, slightly calcareous, micro-micaceous. Abundant Chert and Quartzite as above.
- 3280 - 3290 Shale - black, sub-fissile to fissile, carbonaceous, micro-micaceous, slightly calcareous. Trace calcareous interbeds.
- 3290 - 3300 Shale - dark grey, blocky, siliceous, micro-micaceous, cherty. Minor Quartzite.
- 3300 - 3310 Shale - as above, cherty. Minor Quartzite. Occasional thin calcareous interbeds.
- 3310 - 3320 Shale and Chert - as above. ≈20% Quartzite as above. Abundant Limestone - very light to medium grey, very silty grading to Siltstone, micro-crystalline, tight.
- 3320 - 3330 Shale - dark grey to black, blocky, slightly calcareous, in part siliceous. Trace quartzite, chert and calcareous interbeds.

- 3330 - 3340 Shale - dark grey and black, blocky to fissile, carbonaceous, slightly calcareous, in part siliceous, micro-micaceous. Minor calcareous siltstone grading to very silty limestone. Fractured - abundant white vein calcite.
- 3340 - 3350 Shale - as above and Limestone - light - medium grey, mottled, micro-crystalline, silty, grading to very calcareous Siltstone. Abundant white vein calcite - fractures.
- 3350 - 3360 Shale - dark grey to black, sub-fissile to blocky, carbonaceous. Sandstone - light grey-brown, very fine grained, calcareous, hard, siliceous, in part quartzitic. Abundant white vein calcite.
- 3360 - 3370 Shale and Quartzite - as above. Abundant dark grey chert. Abundant white vein calcite with minor white quartz.
- 3370 - 3380 Shale - dark grey to black, blocky, siliceous, cherty. Minor amounts light grey, calcareous Siltstone. Very abundant white quartz and calcite veinlets.
- 3380 - 3390 Shale - medium grey, calcareous, blocky to platy, in part very calcareous with minor interbedded Siltstone - light grey, calcareous. Limestone - medium grey, micro-crystalline, argillaceous grading to calcareous Shale.
- 3390 - 3400 Shale - in part very calcareous and in part very siliceous. Abundant calcareous Siltstone as above.
- 3400 - 3410 Shale - dark grey to black, sub-fissile to fissile, carbonaceous and blocky calcareous. Abundant dark grey chert. Traces Siltstone as above.
- 3410 - 3420 Shale - black, sub-fissile to fissile, carbonaceous, slightly calcareous, medium soft, micro-micaceous, minor disseminated pyrite.
- 3420 - 3460 Shale - as above, fissile, non-calcareous, pyritic.
- 3460 - 3600 Shale - black (medium bronze-black sheen), fissile, carbonaceous, non-calcareous, minor disseminated pyrite, medium soft, micro-micaceous.
- 3600 - 3630 Shale - as above.

- 3630 - 3650 Shale - dark grey to black, fissile to sub-fissile, slightly carbonaceous, non-calcareous, pyritic, micro-micaceous. Trace chalcopyrite @ 3650.
- 3650 - 3700 Shale - black, fissile to sub-fissile, carbonaceous, pyritic, non-calcareous, becoming slightly siliceous, micro-micaceous.
- 3700 - 3710 Shale - black, blocky to sub-fissile, carbonaceous, in part slightly calcareous, pyritic, in part slightly silty, siliceous. Minor calcareous and siliceous interbeds.
- 3710 - 3720 Shale - as above. Occasional thin calcareous and siliceous interbeds.
- 3720 - 3770 Shale - dark grey to black, blocky, silty, calcareous, micro-micaceous, pyritic, in part slightly carbonaceous. Trace very calcareous interbeds.
- 3770 - 3810 Shale - black, fissile to sub-fissile, carbonaceous, non-calcareous, micro-micaceous, trace pyrite. Minor white calcite and quartz in fractures @ 3810.
- 3810 - 3840 Shale - dark grey to black, blocky to sub-fissile, micro-micaceous, in part slightly carbonaceous, trace pyrite. Trace calcareous interbeds. Abundant white vein quartz. Becoming silty @ 3830.
- 3840 - 3930 Shale - dark grey to black, blocky, silty, slightly siliceous, micro-micaceous, slightly carbonaceous, traces disseminated pyrite, fractures filled with white calcite and quartz.
- 3930 - 3960 Shale - as above, minor fracturing, very silty, calcareous.
- 3960 - 4120 Shale - dark grey-black, blocky, silty, micro-micaceous, slightly calcareous, siliceous, hard, minor disseminated pyrite.
- 4120 - 4220 Shale - as above, becoming less silty, and minor Shale - black, sub-fissile, carbonaceous, micro-micaceous.
- 4220 - 4290 Shale - dark grey, blocky, silty, slightly siliceous, micaceous, slightly calcareous.
- 4290 - 4300 Shale - dark grey, sub-fissile, micro-micaceous, medium soft, slightly calcareous.

- 4300 - 4330 Shale - dark grey, subfissile, pyritic. Shale - black, fissile, carbonaceous, micro-micaceous, only slightly calcareous, medium soft. Occasional thin calcareous, sandy interbeds.
- 4330 - 4420 Shale - dark grey to black, sub-fissile to blocky, in part carbonaceous, slightly to non-calcareous, micro-micaceous, trace disseminated pyrite, medium soft.
- 4420 - 4430 POOR SAMPLE - TRIP @ 4426. Shale - dark grey to black, blocky to sub-fissile, carbonaceous, slightly silty in part, micro-micaceous, trace disseminated pyrite, slightly to non-calcareous.
- 4430 - 4460 Shale - dark grey to black, sub-fissile to blocky, micro-micaceous, slightly carbonaceous, non-calcareous, trace disseminated pyrite, medium soft to medium hard. Becoming slightly silty.
- 4460 - 4500 Shale - as above, becoming slightly silty and increasingly calcareous. Minor thin calcareous and quartzitic interbeds.
- 4500 - 4510 POOR SAMPLE TRIP @ 4511. Shale - as above with minor calcareous Quartzite as above.
- 4510 - 4540 Shale - dark grey to black, sub-fissile, carbonaceous, non-calcareous, micro-micaceous, trace disseminated pyrite, medium hard. Minor calcareous Sandstone interbeds @ 4520 - 4530.
- 4540 - 4550 Shale - as above. Trace fracturing with trace hematite staining. Trace Quartzite interbeds.
- 4550 - 4560 Shale - as above and Shale - carbonaceous, micro-micaceous, slightly calcareous to siliceous, hard, slightly silty.
- 4560 - 4590 Shale - dark grey to black, blocky, silty, slightly calcareous, trace carbonaceous, medium hard. Minor black fissile shale.
- 4590 - 4650 Shale - as above and Shale - black, sub-fissile, micro-micaceous, pyritic, carbonaceous, medium soft. Occasional trace calcareous Quartzite.

- 4690 - 4700 Shale - as above, slightly silty and slightly siliceous.
- 4700 - 4790 Shale - black, sub-fissile to blocky, carbonaceous, in part silty and slightly siliceous, medium hard, pyritic, micro-micaceous, in part slightly calcareous.
- 4790 - 4820 Shale - dark grey to black, sub-fissile to blocky, medium hard, in part carbonaceous, pyritic, micro-micaceous, in part silty, slightly calcareous. Trace thin calcareous, sandy interbeds.
- 4820 - 4870 Shale - dark grey-black, blocky to sub-fissile, slightly silty and calcareous, in part carbonaceous and pyritic, micro-micaceous, medium hard. Slightly siliceous in places.
- 4870 - 4890 Shale - dark grey to black, fissile to sub-fissile, micro-micaceous, pyritic, carbonaceous, trace fractures.
- 4890 - 4920 Shale - dark grey to black, blocky to sub-fissile, silty, slightly calcareous, siliceous, micro-micaceous, trace disseminated pyrite, in part slightly carbonaceous, medium hard to hard.
- 4920 - 5000 Shale - as above, becoming sub-fissile, carbonaceous and less siliceous. Trace white vein calcite. Occasional thin sandy, calcareous interbed.
- 5000 - 5070 Shale - dark grey to black, blocky to sub-fissile, micro-micaceous, in part carbonaceous, slightly calcareous, trace disseminated pyrite, in part siliceous, medium hard to hard. Occasional thin calcareous interbed. Slickensides?
- 5070 - 5140 Shale - dark grey-black, blocky, siliceous, hard, slightly calcareous, micro-micaceous, trace disseminated pyrite, in part slightly carbonaceous.
- 5140 - 5170 Shale - dark grey, blocky, siliceous, hard, slightly calcareous, micro-micaceous, trace disseminated pyrite, in part slightly carbonaceous.
- 5170 - 5230 Shale - as above, becoming increasingly carbonaceous and slightly less siliceous. In part sub-fissile and medium soft.

- 5230 - 5260 Shale - dark grey to black, blocky to sub-fissile, medium hard, carbonaceous, pyritic, micro-micaceous, in part calcareous, trace fracturing with traces chalcopyrite, in part siliceous.
- 5260 - 5320 Shale - dark grey to black, blocky, siliceous, hard, slightly pyritic, micro-micaceous. Minor sub-fissile, carbonaceous shale.
- 5320 - 5330 Shale - as above.
- 5330 - 5440 Shale - dark grey to black, blocky to sub-fissile, carbonaceous, micro-micaceous, slightly calcareous, trace disseminated pyrite, medium soft. In part siliceous. Trace fracturing.
- 5440 - 5470 Shale - as above, with a slightly silty texture.
- 5470 - 5480 Shale - dark grey to black, sub-fissile, calcareous, carbonaceous, trace disseminated pyrite, micro-micaceous, medium soft to medium hard.
- 5480 - 5560 Shale - dark grey to black, blocky, variably siliceous and hard to medium, slightly calcareous, carbonaceous, micro-micaceous, trace disseminated pyrite. Occasional thin calcareous interbeds.
- 5560 - 5630 Shale - as above, calcareous. Occasional thin calcareous, sandy interbeds.
- 5630 - 5640 Shale - dark grey to black, sub-fissile, carbonaceous, calcareous to slightly calcareous, medium soft, pyritic, micro-micaceous. Occasional thin calcareous Sandstone interbeds.
- 5640 - 5690 Shale - dark grey to black, sub-fissile, carbonaceous, only slightly calcareous, pyritic, micro-micaceous, medium soft. Occasional trace Quartzite as above.
- 5690 - 5700 NO SAMPLE.
- 5695 - 5715 DIAMOND CORE #1, Recovered 18'. Shale - black as above.
- 5730 - 5740 Shale - dark grey to black, blocky to sub-fissile, carbonaceous, pyritic, micro-micaceous, slightly calcareous, trace fracturing and trace Quartzite as above.

- 5740 - 5800 Shale - dark grey to black, fissile, micro-micaceous, carbonaceous, pyritic, calcareous to slightly calcareous.
- 5800 - 5910 Shale - black, as above, non-calcareous. Occasional trace calcareous Quartzite, increasingly carbonaceous, minor white vein calcite.
- 5910 - 6000 Shale - dark grey to black, as above becoming sub-fissile to blocky.
- 6000 - 6130 Shale - black, fissile to sub-fissile, carbonaceous, disseminated pyrite, micro-micaceous, medium hard.
- 6130 - 6140 Shale - as above, with minor trace hematite staining.
- 6140 - 6200 Shale - dark grey to black, fissile, carbonaceous, pyritic, micro-micaceous. Trace calcareous Quartzite and fracturing.
- 6200 - 6240 Shale - as above, very abundant white calcite and quartz. Fractured, trace light grey chert. Thin calcareous Sandstone interbeds, light grey, very fine grained, tight.
- 6240 - 6340 Shale - dark grey to black, carbonaceous, sub-fissile to fissile, disseminated pyrite, micro-micaceous. Trace fracturing and white vein calcite.
- 6340 - 6350 Shale - as above, and Limestone (30%) - medium grey, mottled, coarse crystalline, slightly argillaceous, abundant crinoid fragments, sandy with floating quartz grains. Abundant calcareous Quartzite.
- 6350 - 6360 Shale and Limestone (50%) - as above.
- 6360 - 6370 Shale - as above with $\approx 20\%$ Limestone and Quartzite as above.
- 6370 - 6400 Shale - dark grey to black, sub-fissile, carbonaceous, minor disseminated pyrite, micro-micaceous, slightly to non-calcareous. Trace Limestone as above.
- 6400 - 6460 Shale - dark grey to black, sub-fissile, carbonaceous, slightly calcareous, disseminated pyrite, micro-micaceous.

- 6460 - 6530 Shale - as above, becoming increasingly calcareous @6460. Occasional thin calcareous quartzite stringer.
- 6530 - 6540 Shale - as above and Sandstone - light to medium grey, very fine grained, sub-angular, poorly sorted, very calcareous, grading to very sandy limestone, tight.
- 6540 - 6550 Shale - as above (50%) and Sandstone - as above with minor sandy Limestone interbeds.
- 6550 - 6560 Shale - dark grey to black, sub-fissile, non-calcareous, carbonaceous, micro-micaceous, minor disseminated pyrite. Minor Sandstone as above (30%).
- 6560 - 6570 Shale - as above with Sandstone (30%) - as above.
- 6570 - 6580 Quartzite - light grey, very fine grained to silt size, very hard, pyritic, in part slightly calcareous. Shale (*30%) - as above.
- 6580 - 6600 Shale - dark grey to black, sub-fissile to blocky, minor disseminated pyrite throughout, slightly calcareous, in part slightly siliceous, carbonaceous. Minor Quartzite as above.
- 6600 - 6760 Shale - as above.
- 6760 - 6780 Shale - dark grey, blocky to sub-fissile, calcareous, micro-micaceous, slightly carbonaceous, trace disseminated pyrite.
- 6780 - 6800 Shale - dark grey-black, blocky to sub-fissile, slightly calcareous, trace disseminated pyrite.
- 6800 - 6820 Shale - dark grey to black, sub-fissile, slightly carbonaceous, trace to slightly calcareous, trace disseminated pyrite. Shale becomes non-calcareous @6810.
- 6820 - 6840 Shale - as above, calcareous.
- 6840 - 6850 Shale - dark grey to black, blocky, siliceous, in part calcareous, micro-micaceous, minor disseminated pyrite. Minor very fine grained, calcareous Quartzite.

- 6852 - 6874 DIAMOND CORE #2, Cut 22', Recovered 22'.
- 6870 - 6930 Shale - dark grey to black, sub-fissile, carbonaceous, minor disseminated pyrite, variably calcareous, medium hard. Minor white vein calcite
- 6930 - 6950 Shale - dark grey, blocky, very calcareous.
- 6950 - 6970 Shale - as above, very calcareous and Limestone (10%) light - dark grey, very fine crystalline, sandy, tight, trace crinoid fragments, trace gilsonite?
- 6970 - 6990 Shale - as above and Limestone - medium to dark grey, very fine crystalline to aphanitic, argillaceous, grading to very calcareous Shale. Trace light grey, crinoidal Limestone.
- 6990 - 7000 POOR SAMPLE. Shale and Limestone - as above.
- 7000 - 7010 Limestone - light to medium grey, mottled, fine crystalline, in part slightly argillaceous, trace crinoid fragments, sandy, tight. Shale - as above (30 - 40%).
- 7010 - 7020 Limestone - as above with interbedded Shale - dark grey to black, sub-fissile, non-calcareous, trace disseminated pyrite.
- 7020 - 7030 Limestone - light to medium grey, mottled, medium to fine crystalline, in part crinoidal, in part slightly argillaceous and sandy, tight. Minor Shale as above.
- 7029 - 7053 DIAMOND CORE #3, Cut 24', Recovered 20.5'
- 7050 - 7060 Shale - black, sub-fissile, non-calcareous to slightly calcareous, pyritic, carbonaceous. Limestone (10 - 20%) as above.
- 7060 - 7070 Shale - as above with Quartzite (10%) - medium grey, very fine grained, calcareous, hard, grading to sandy Limestone.
- 7070 - 7110 Shale - dark grey to black, sub-fissile to fissile, non-calcareous, pyritic, interbeds. Limestone (40%) light to medium grey, mottled, very fine crystalline, sandy, tight.
- 7110 - 7120 Limestone - as above with Shale (40%) (as above) interbeds.

- 7120 - 7140 Limestone - light to medium grey, mottled, very fine crystalline, trace floating sand grains. Minor (30%) Shale interbeds, dark grey to black, blocky, calcareous. Minor calcareous Quartzite.
- 7140 - 7150 Limestone - light to medium grey, mottled, very fine crystalline, sandy, black chert, in part siliceous. Minor Shale (20%) as above. Abundant calcareous Quartzite.
- 7150 - 7160 Limestone - as above, very sandy, cherty, grading to Sandstone - light grey, very fine grained, hard, calcareous. Shale - as above.
- 7160 - 7170 Shale - dark grey to black, sub-fissile to blocky, slightly calcareous, trace disseminated pyrite, carbonaceous, medium hard. Abundant dark grey chert. Minor Limestone and Quartzite as above.
- 7170 - 7230 Shale - as above, slightly silty and calcareous.
- 7230 - 7290 Shale - as above with minor Sandstone - light grey, very fine grained, very calcareous, tight, grading to very sandy limestone.
- 7290 - 7310 Shale - dark grey, blocky, calcareous. Minor Sandstone as above.
- 7310 - 7320 Shale - dark grey, blocky, calcareous, grading to Shale medium grey, very calcareous, silty. Minor Sandstone as above, very calcareous grading to very sandy Limestone.
- 7320 - 7340 Shale - as above, very calcareous with a very fine granular texture.
- 7340 - 7350 Shale - as above, with minor Sandstone - light grey, very calcareous, very fine grained, tight. Shale slightly less calcareous.
- 7350 - 7390 Shale - as above.
- 7390 - 7440 Shale - dark grey, blocky, calcareous, minor interbedded Sandstone and sandy Limestone as above. Abundant white vein calcite - fractured.
- 7440 - 7470 NO SAMPLE - LOST CIRCULATION.

- 7470 - 7480. Shale - (40%) dark grey, blocky, slightly calcareous, hard, siliceous, silty, cherty. Sandstone - medium-dark grey, very fine grained, hard, grading to Siltstone - calcareous, in part siliceous, silty.
- 7480 - 7500 Sandstone - medium grey, very fine grained, very calcareous, hard, silty, grading to very calcareous Siltstone. Shale - dark grey to black, blocky siliceous to fissile, minor disseminated pyrite, cherty (dark grey). Traces very sandy, silty Limestone.
- 7500 - 7510 Siltstone - grading to very fine grained Sandstone - light to medium grey, very calcareous. Shale - as above. Minor very silty, sandy Limestone.
- 7510 - 7530 Limestone - light-medium grey, very fine crystalline, very silty grading to very calcareous Siltstone. Minor Shale as above. Traces fracturing.
- 7530 - 7550 Limestone - light-medium grey, fine crystalline, silty, in part grading to very calcareous Siltstone, tight. Minor calcareous Shale.
- 7550 - 7560 Shale - dark grey, blocky, calcareous, trace disseminated pyrite, Minor Limestone and Siltstone as above. POOR SAMPLE.
- 7560 - 7580 Shale - dark grey to black, sub-fissile to blocky, carbonaceous, slightly calcareous, in part slightly siliceous, trace disseminated pyrite. Minor Siltstone and Limestone as above.
- 7580 - 7590 Shale - as above with Sandstone - medium grey, very fine grained to silt, grading to very silty Limestone.
- 7590 - 7640 Shale - as above, non-calcareous, Sandstone (40%) as above. Abundant sandy, very calcareous Limestone.
- 7640 - 7670 Shale - as above with Limestone (20 - 30%) - medium grey, aphanitic, tight, slightly argillaceous. Lost Circulation - fractured. Abundant medium grey Chert.
- 7670 - 7720 Shale - as above, very cherty. Minor calcareous Siltstone interbeds. Abundant white calcite @7710.
- 7720 - 7730 Shale - dark grey, blocky to sub-fissile. Chert - dark grey. Minor calcareous Sandstone and silty sandy Limestone. Minor black, fissile Shale.

- 7730 - 7750 Siltstone - light to medium grey, very calcareous grading to very silty Limestone. Shale - dark grey-black, fissile, carbonaceous, non-calcareous, pyritic. Chert - medium grey.
- 7750 - 7760 Shale - dark grey to black, fissile to blocky, in part siliceous and slightly calcareous, trace disseminated pyrite. Minor calcareous Siltstone as above. Trace Chert.
- 7760 - 7790 Shale - as above with very abundant dark grey Chert.
- 7790 - 7800 Shale and Chert - as above. Sandstone - light-medium grey, very calcareous, very fine grained, grading to Siltstone and very silty Limestone.
- 7800 - 7810 Shale and Chert - as above, minor Siltstone.
- 7810 - 7860 Shale - dark grey to black, sub-fissile to blocky, hard, siliceous, Minor black, fissile, pyritic Shale and Siltstone. Minor Chert - dark grey. Trace dark grey Quartzite.
- 7860 - 7880 Shale - as above. Chert - as above. Sandstone (30%) light grey, very fine grained, very calcareous, grading to sandy Limestone, tight, dark-medium grey, fine crystalline, slightly argillaceous.
- 7880 - 7910 Shale - as above. Chert - as above. Minor Limestone and Siltstone as above.
- 7910 - 7920 Shale - dark grey, blocky, calcareous to non-calcareous, trace disseminated pyrite. Minor Chert - dark grey and Limestone as above.
- 7920 - 7930 Shale - medium-dark grey, blocky, slightly calcareous, hard, siliceous. Chert - medium grey. Siltstone medium grey, calcareous, hard. Trace light grey, silty Limestone.
- 7930 - 7950 Shale - Chert and calcareous Siltstone as above.
POOR SAMPLES.
- 7950 - 7960 Shale - dark grey-black, blocky, hard, siliceous, sub-fissile, carbonaceous, pyritic. Chert - as above. Limestone - light grey, very fine crystalline, slightly silty and argillaceous. Abundant white vein calcite.

- 7960 - 7980 Shale - dark grey, blocky, calcareous, hard. Minor dark grey quartzite. Minor silty Limestone and calcareous Siltstone.
- 7980 - 7990 Shale - as above. Siltstone - medium grey, blocky, hard, very calcareous, in part grading to silty Limestone. Minor Chert as above.
- 7990 - 8010 Limestone - light to medium grey, very fine crystalline, slightly dolomitic, sucrosic, slightly argillaceous, silty grading to very calcareous Siltstone. Tight.
- 8010 - 8020 Limestone - as above, becoming very argillaceous grading to Shale - medium grey, blocky, very calcareous.
- 8020 - 8050 Shale - medium grey, blocky, calcareous, minor black, fissile, pyritic Shale. Chert - medium grey. Siltstone - medium grey, very calcareous. Minor Limestone - as above.
- 8050 - 8060 Shale - medium-dark grey, blocky, calcareous. Trace calcareous Siltstone and silty Limestone. Trace white vein calcite.
- 8060 - 8070 Shale - dark grey-black, sub-fissile to blocky, trace disseminated pyrite, slightly carbonaceous. Shale - as above, calcareous. Trace white vein calcite.
- 8070 - 8080 Shale - as above, calcareous, blocky, in part siliceous.
- 8080 - 8130 Shale - black, sub-fissile, carbonaceous, pyritic, in part siliceous. Trace calcareous Siltstone and white vein calcite.
- 8140 - 8600 Shale - black, fissile to sub-fissile, carbonaceous, pyritic, non-calcareous, slightly siliceous. Trace chalcopyrite @ 8370 - 8380.
- 8600 - 8690 Shale - dark grey-black, fissile to blocky, carbonaceous, pyritic, in part siliceous, non-calcareous.
- 8690 - 8740 Shale - dark grey to black, blocky, hard, siliceous, pyritic, slightly carbonaceous, non-calcareous.
- 8740 - 8750 Shale - as above. POOR SAMPLE.

- 8750 - 8800 Shale - dark grey to black, sub-fissile, hard, in part slightly siliceous, slightly carbonaceous, minor disseminated pyrite, non-calcareous.
- 8800 - 9000 Shale - grey-black, blocky, minor disseminated pyrite, slightly carbonaceous, variably siliceous, non-calcareous.
- 9000 - 9020 Shale - dark grey-black, blocky, slightly carbonaceous, pyritic, variably siliceous, non-calcareous. POOR SAMPLES.
- 9020 - 9030 NO SAMPLE.
- 9030 - 9060 POOR SAMPLES. - as above.
- 9060 - 9080 Shale - dark grey to black, blocky, in part sub-fissile, slightly carbonaceous, disseminated pyrite, variably siliceous, non-calcareous.
- 9080 - 9310 Shale - dark grey, blocky, very siliceous, disseminated pyrite throughout, non-calcareous, hard, slightly carbonaceous. Minor traces white vein calcite. Occasional trace slickensides. Conchoidal fracture.
- 9310 - 9490 Shale - as above with Shale - dark grey-black, sub-fissile, carbonaceous, pyritic, slickensides. Traces white vein calcite.
- 9490 - 9500 Shale - as above. POOR SAMPLE.
- 9500 - 9540 Shale - dark grey to black, fissile to sub-fissile, in part siliceous, hard to medium hard, in part carbonaceous, non-calcareous, minor disseminated pyrite. Trace quartz filled fractures.
- 9540 - 9630 Shale - dark grey, sub-fissile, in part blocky, siliceous, slightly carbonaceous, minor disseminated pyrite.
- 9630 - 9790 Shale - dark grey, sub-fissile to blocky, slightly carbonaceous, hard, siliceous, non-calcareous, minor disseminated pyrite, micro-micaceous.
- 9790 - 9800 Shale - as above, abundant white vein quartz - fracturing, increasingly carbonaceous in part.
- 9800 - 9810 Shale - dark grey, fissile to blocky, in part carbonaceous, silty texture, fractured, minor disseminated pyrite.

- 9810 - 9820 Shale - dark grey, blocky, siliceous, hard, minor disseminated pyrite, trace fracturing.
- 9820 - 9860 Shale - dark grey to black, predominantly blocky to sub-fissile, siliceous, with minor fissile Shale, pyritic, minor fracturing with quartz infilling fractures, in part slightly carbonaceous.
- 9860 - 10060 Shale - dark grey-black, blocky, very siliceous, concoidal fracture, slightly carbonaceous, pyritic, non-calcareous, trace quartz filled fractures. Very minor interbedded (1' beds) black, fissile Shale.
- 10060 - 10080 Shale - as above, in part becoming less siliceous.
- 10080 - 10190 Shale - dark grey-black, blocky, very siliceous, in part concoidal fracture, slightly carbonaceous, pyritic, micro-micaceous, non-calcareous. Trace white vein quartz. Minor black, sub-fissile Shale. Shale becoming slightly more carbonaceous.
- 10190 - 10250 Shale - as above, abundant quartz and calcite infilling fractures.
- 10250 - 10260 Shale - as above with increasing sub-fissile to fissile, carbonaceous Shale, less siliceous.
- 10260 - 10310 Shale - dark grey-black, sub-fissile, slightly siliceous, carbonaceous, non-calcareous, trace pyrite, micro-micaceous, Minor blocky, siliceous Shale.
- 10310 - 10330 Shale - dark grey-black, sub-fissile carbonaceous to blocky siliceous, pyritic. Becoming increasingly blocky and siliceous, non-calcareous.
- 10330 - 10360 Shale - dark grey-black, sub-fissile to blocky, siliceous, pyritic, slightly carbonaceous, micro-micaceous, non-calcareous. Abundant white vein quartz and calcite.
- 10360 - 10460 Shale - as above, blocky, siliceous.

SECTION IIIENGINEERING SUMMARYINEXCO et al MALLARD YT 0-18(a) REPORT OF DRILL STEM TESTS

There were no drill stem tests run during the drilling of Inexco et al Mallard YT 0-18.

(b) CASING RECORD

Surface casing: Ran 32 jts. (959.82') 13 3/8", 54.5#, K-55, Smls 8 rd casing. Landed at 957' K.B. Cemented with 240 sx fondu cement and 760 sx oilwell cement. Plug down @ 1:53 A.M., May 10/72.

Intermediate casing: Ran 83 jts. (3180') 9 5/8", 36# & 40#, K-55, Smls 8 rd casing. Landed @ 3178' K.B. Cemented with 650 sx oilwell cement. Plug down @ 8:00 A.M., July 21/72.

(c) BIT RECORD

See page 36 & 37.

(d) MUD REPORT

<u>ADDITIVES</u>	<u>AMOUNT</u>
Gel	156,000 lbs.
Caustic	1,150 lbs.
Lime	150 lbs.
CMC	1,900 lbs.
Bicarb.	1,500 lbs.
X-Pel G	6,825 lbs.
Benex	316 lbs.
Peltex	150 lbs.
Cane Fibre	1,240 lbs.
Kwik seal	2,120 lbs.
Poly seal	1,900 lbs.
Sawdust	121 sx.
Cement	400 lbs.
Soap	154 gal.
Calgon	300 lbs.
Hagatreat	250 lbs.

BIT RECORD

INEXCO et al. MALLARD YT 0-18

Bit No.	Type	Jets	Size	From	To	Footage	Hours	Cond.
1A	M44N	open	12 $\frac{1}{4}$	0	356	356	41 $\frac{1}{4}$	54I
2A	DSJ	open	12 $\frac{1}{4}$	356	645	289	28 $\frac{1}{2}$	56I
3A	DSJ	open	12 $\frac{1}{4}$	645	755	110	17 $\frac{1}{2}$	76I
4A	DMNJ	open	12 $\frac{1}{4}$	755	840	85	13	65I
5A	M44	3/28	12 $\frac{1}{4}$	840	885	45	6 $\frac{3}{4}$	62I
6A	H76J	3/28	12 $\frac{1}{4}$	885	955	70	10 $\frac{1}{4}$	53I
7A	Hole opener		17 $\frac{1}{2}$	0	918	918	18 $\frac{1}{4}$	86I
8A	Hole opener		17 $\frac{1}{2}$	918	961	43	4 $\frac{1}{4}$	44I
1	RX55R	open	12 $\frac{1}{4}$	961	1124	157	13 $\frac{3}{4}$	44I
2	SCM5G	open	12 $\frac{1}{4}$	1124	1857	733	51 $\frac{1}{4}$	78I-2 cones locked
3	M88	3/28	12 $\frac{1}{4}$	1857	2360	503	35	33I
4	DMNJ	3/22	12 $\frac{1}{4}$	2360	2442	82	10 $\frac{1}{2}$	42I
5	SC5G	3/22	12 $\frac{1}{4}$	2442	3105	663	48	78I-1 cone locked
6	M88	2/22;1/18	12 $\frac{1}{4}$	3105	3465	360	33 $\frac{1}{4}$	44I
7	SCH	2/18;1/20	12 $\frac{1}{4}$	3465	3604	139	11	22I
8	DMNJ	2/18;1/20	12 $\frac{1}{4}$	3604	3750	146	19	45I
9	SCH(RR#7)	2/22;1/18	12 $\frac{1}{4}$	3750	4292	542	67 $\frac{3}{4}$	22I
10	SC4G	2/18;1/20	12 $\frac{1}{4}$	4292	4426	134	23 $\frac{1}{4}$	11I
11	M44N	2/20;1/18	12 $\frac{1}{4}$	4426	4511	85	13 $\frac{1}{2}$	46I
12	SC4G(RR#10)	2/18;1/20	12 $\frac{1}{4}$	4511	4890	379	56 $\frac{1}{2}$	65I
13	M88RR		12 $\frac{1}{4}$	4890	4890			STUCK IN HOLE
14	M44N	3/open	12 $\frac{1}{4}$					
15	M88RR		12 $\frac{1}{4}$	4890	4975	85	18 $\frac{1}{2}$	48I
16	SCM5J	2/22;1/18	12 $\frac{1}{4}$	4975	5274	299	49 $\frac{3}{4}$	63I
17	SCM5J	2/22;1/open	12 $\frac{1}{4}$	5274	5340	66	17	11I
18	DMNJ	2/22;1/28	12 $\frac{1}{4}$	5340	5443	103	22 $\frac{3}{4}$	44I
19	M44J	2/22;1/28	12 $\frac{1}{4}$	5443	5497	54	17 $\frac{1}{2}$	62I
20	DMNJ	2/22;1/28	12 $\frac{1}{4}$	5497	5563	66	19 $\frac{3}{4}$	42I
21	SHGJ	3/open	8 $\frac{3}{4}$	5563	5628	65	17	43I
22	S88	3/open	8 $\frac{3}{4}$	5628	5695	67	24 $\frac{1}{2}$	22I
1B	◇ Chris	open	6 $\frac{23}{32}$	5695	5715	20	2 $\frac{3}{4}$	Good
23	S88RR	open	8 $\frac{3}{4}$	5695	5715	20	2 $\frac{3}{4}$	22I
24	M4LC	18/16/15	8 $\frac{3}{4}$	5715	5807	92	15 $\frac{1}{2}$	44I
25	J44	3/15	8 $\frac{3}{4}$	5807	6020	213	41 $\frac{1}{4}$	12I
26	DMJ	2-15/1-14	8 $\frac{3}{4}$	6020	6134	114	16	67I
27	DMJ	2-15/1-14	8 $\frac{3}{4}$	6134	6225	91	13 $\frac{1}{4}$	76I
28	J44RR	3/15	8 $\frac{3}{4}$	6225	6525	300	46	Good
29	M4LG	3/15	8 $\frac{3}{4}$	6525	6548	23	9	64I
30	DMJ	1/14;2/15	8 $\frac{3}{4}$	6548	6611	63	15 $\frac{1}{2}$	65I
31	DMJ	3/15	8 $\frac{3}{4}$	6611	6706	95	18 $\frac{3}{4}$	64I

32	DMJ	1/14;2/15	8 $\frac{3}{4}$	6706	6788	82	17 $\frac{1}{2}$	66I
33	DMJ	2/15;1/14	8 $\frac{3}{4}$	6788	6852	62	12 $\frac{1}{2}$	66I
2B	◇ Chris	open	6 $\frac{23}{32}$	6852	6874	22	9 $\frac{3}{4}$	Good
34	M4LGJ	2/15;1/14	8 $\frac{3}{4}$	6852	6900	48	6 $\frac{1}{2}$	44I
(22' Ream; 26' Drill)								
35	DMJ	2/15;1/14	8 $\frac{3}{4}$	6900	6943	43	11 $\frac{1}{4}$	76I
36	DMJ	2/15;1/14	8 $\frac{3}{4}$	6943	6992	49	13 $\frac{1}{2}$	76I
37	DMJ	2/15;1/14	8 $\frac{3}{4}$	6992	7029	37	11 $\frac{1}{4}$	76I
3B	◇ Chris	open	6 $\frac{23}{32}$	7029	7053	24	8 $\frac{1}{2}$	Good
38	SWCH	2/16;1/13	8 $\frac{3}{4}$	7029	7076	47	12 $\frac{3}{4}$	52I
(24' Ream-6 $\frac{1}{4}$ hr; 23' Drill-6 $\frac{1}{2}$ hr)								
39	X55R	2/15;1/14	8 $\frac{3}{4}$	7076	7409	333	40	84I
40	M88	2/15;1/14	8 $\frac{3}{4}$	7409	7562	153	18 $\frac{1}{4}$	86 $\frac{1}{2}$
41	SWCH	2/15;1/14	8 $\frac{3}{4}$	7562	7568	6	1	11I
42	RG7XJ	2/15;1/14	8 $\frac{3}{4}$	7568	7685	117	15 $\frac{1}{2}$	12I
43	W4HJ	open	8 $\frac{3}{4}$	7685	7723	38	10 $\frac{3}{4}$	66I
44	FCH4J	3/18	8 $\frac{3}{4}$	7723	8013	290	56	24I
45	J44RR	3/14	8 $\frac{3}{4}$	8013	8405	392	46 $\frac{1}{4}$	44I
46	FCM5J	3/14	8 $\frac{3}{4}$	8405	8749	344	38 $\frac{1}{4}$	72I
47	X55R	3/14	8 $\frac{3}{4}$	8749	9002	253	30 $\frac{3}{4}$	
48	M4LG	3/16	8 $\frac{3}{4}$	Drill out Cement				11I
49	RRX55R	2/14;1/15	8 $\frac{3}{4}$	9002	9002	-	-	New
50	M4LG	2/14;1/15	8 $\frac{3}{4}$	9002	9037	35	5 $\frac{3}{4}$	
51	X55R	2/14;1/15	8 $\frac{3}{4}$	9037	9462	425	32	68I
52	7JS	3/16	8 $\frac{3}{4}$	9462	9490	28	7 $\frac{1}{4}$	22I
53	X55R	3/16	8 $\frac{3}{4}$	9490	9611	121	26 $\frac{1}{4}$	22I
54	FCM5	3/16	8 $\frac{3}{4}$	9611	9727	116	46 $\frac{1}{4}$	22I
55	SS1G	3/16;1/18	8 $\frac{3}{4}$	9727	9802	75	18 $\frac{3}{4}$	86I
56	S88	3/16;1/18	8 $\frac{3}{4}$	9802	9936	134	23 $\frac{3}{4}$	87 $\frac{1}{4}$
57	7JS RR	2/16;1/20	8 $\frac{3}{4}$	9936	10043	107	16 $\frac{3}{4}$	78I
58	X55R	3/18	8 $\frac{3}{4}$	10043	10307	264	36 $\frac{1}{2}$	68 $\frac{1}{4}$
59	X55R	3/18	8 $\frac{1}{2}$	10307	10475	168	19 $\frac{3}{4}$	32I
4B	◇ Chris	open	6 $\frac{23}{32}$	10475	10492	17	9 $\frac{1}{2}$	Good
60	7JS RR	3/18	8 $\frac{3}{4}$	10492	10499	7	1 $\frac{1}{2}$	44 $\frac{1}{4}$
				Reamed -	10307	10492	185	5 $\frac{3}{4}$

(e) DEVIATION RECORD

See page 39 & 40.

(f) SUSPENSION PLUGS

Plug #1 - 10499' - 10399' with 100 sx neat oilwell cement.
Plug down @ 7:25 P.M., Aug 16, 1972.

Plug #2 - 2000' - 1900' with 100 sx neat oilwell cement.
Plug down @ 11:05 P.M., Aug 16, 1972.
Felt plug #2 @ 1860'.

(g) LOST CIRCULATION ZONES

The Mallard well was drilled from surface to 7685' with no apparent lost circulation zone other than minor additions of LCM on the surface hole. At 7685' drilling operations were stopped for 3 1/4 hrs. to mix LCM. It is suspected that circulation was lost to a highly fractured zone. Circulation was regained following the addition of 700 lbs. of polyseal. From 7685' to TD it was apparent that portions of the hole were taking minor amounts of fluid. Circulation was maintained by the addition of gel and water to make up the required volume plus the addition of small amounts of LCM to plug fractured intervals.

(h) REPORT OF BLOWOUTS

None

DEVIATION RECORDINEXCO et al. MALLARD YT 0-18

<u>Depth</u>	<u>Deviation (Degrees)</u>	<u>Depth</u>	<u>Deviation (Degrees)</u>
67	$\frac{3}{4}$	2065	$3\frac{1}{8}$
103	$\frac{1}{2}$	2125	$3\frac{1}{4}$
132	$\frac{1}{2}$	2188	$4\frac{1}{4}$
160	1	2245	$4\frac{1}{2}$
200	1	2310	$4\frac{3}{4}$
234	$\frac{3}{4}$	2377	5
293	1	2409	$4\frac{1}{4}$
321	$1\frac{1}{8}$	2440	$4\frac{1}{4}$
350	2	2493	$3\frac{1}{2}$
380	$1\frac{7}{8}$	2555	4
410	$2\frac{3}{4}$	2617	4
444	$2\frac{7}{8}$	2753	3
473	$2\frac{7}{8}$	3001	$2\frac{3}{4}$
505	$2\frac{3}{8}$	3283	4
536	$2\frac{1}{4}$	3407	$3\frac{3}{4}$
566	$2\frac{1}{2}$	3596	$8\frac{1}{2}$
596	$2\frac{1}{2}$	3596	$8\frac{1}{2}$
620	2	3655	$8\frac{1}{4}$
661	$2\frac{1}{4}$	3687	$8\frac{1}{4}$
692	$2\frac{1}{2}$	3718	8
720	$2\frac{3}{4}$	3750	$7\frac{3}{4}$
755	$2\frac{3}{4}$	3790	$9\frac{1}{2}$
787	$2\frac{3}{4}$	3822	10
819	$2\frac{1}{4}$	3853	$9\frac{3}{4}$
850	$2\frac{1}{4}$	3882	10
880	3	3915	$9\frac{3}{4}$
914	$2\frac{3}{4}$	3946	$9\frac{1}{2}$
946	$2\frac{3}{4}$	3972	10
1012	$2\frac{3}{4}$	4000	9
1105	$2\frac{1}{2}$	4030	10
1165	$2\frac{1}{2}$	4072	$9\frac{1}{2}$
1272	$2\frac{1}{4}$	4102	$9\frac{3}{4}$
1390	$2\frac{1}{2}$	4133	$9\frac{3}{4}$
1523	$2\frac{1}{2}$	4163	10
1646	$2\frac{1}{2}$	4193	$9\frac{3}{4}$
1879	$3\frac{1}{2}$	4259	$9\frac{3}{4}$
1939	4	4319	$9\frac{3}{4}$
2034	$3\frac{1}{8}$	4384	9

Misrun (8° chart)
(16° chart)

DEVIATION RECORD (continued)

<u>Depth</u>	<u>Deviation (Degrees)</u>	<u>Depth</u>	<u>Deviation (Degrees)</u>
4440	9	6485	20
4510	$8\frac{1}{2}$	6515	21
4604	$8\frac{1}{4}$	6548	22
4739	9	6570	21
4860	$7\frac{3}{4}$	6605	22
4970	$9\frac{1}{2}$	6630	22
5019	$9\frac{1}{2}$	6695	20
5050	10	6760	$19\frac{1}{2}$
5084	$10\frac{1}{2}$	6780	21
5116	$11\frac{1}{2}$	6842	22
5146	12	6895	21
5170	$12\frac{1}{4}$	6940	21
5209	$12\frac{1}{2}$	6992	Misrun
5241	12	7000	20
5273	$12\frac{1}{2}$	7076	20
5290	$12\frac{3}{4}$	7106	20
5332	13	7137	$19\frac{1}{2}$
5360	$12\frac{1}{2}$	7231	$19\frac{1}{2}$
5426	$11\frac{1}{2}$	7324	19
5489	$11\frac{1}{2}$	7409	19
5563	$10\frac{1}{4}$	7482	18
5616	$10\frac{1}{4}$	7542	19
5695	12	7702	6 (?) Misrun
5790	$13\frac{1}{2}$	7723	Misrun (Off 16° clock)
5820	$14\frac{1}{4}$	7700	10 (?) Misrun
5857	15	7734	19
5888	15	7796	20
5920	$15\frac{3}{4}$	7860	19
5950	16	7990	18
5982	$16\frac{1}{2}$	8045	$16\frac{1}{2}$
6013	17	8135	17
6040	18	8226	$17\frac{1}{2}$
6070	18	8400	17
6106	17	8580	17
6130	$16\frac{1}{2}$	8740	18
6160	$14\frac{3}{4}$	9002	Misrun
6225	15	9250	21
6265	15	9462	18
6330	16	9611	17
6360	17	9802	21
6394	18	9936	20
6425	$19\frac{1}{2}$	10307	$19\frac{1}{2}$
6455	20	10462	21

SECTION IV - LOGSINEXCO et al. MALLARD YT 0-18

<u>Type</u>	<u>Date</u>	<u>Interval</u>	<u>Scale</u>
Dual Induction Laterolog	June 18/72	954 - 5707	2" & 5"
	August 12/72	5500 - 10491	2" & 5"
BHC Sonic-Gamma Ray-Caliper	June 18/72	952 - 5713	2" & 5"
	August 12/72	5500 - 10488	2" & 5"
Formation Density Compensated	August 12/72	3030 - 10492	2" & 5"
Dipmeter	June 18/72	954 - 5707	
	August 12/72	5707 - 10492	

WELL HISTORY LOG

Well Name: INEXCO et. al. MALLARD YT 0-18

Location: 65 47 58 N 140 17 41 W

Operator: INEXCO OIL COMPANY

Elevation: Ground: 3650 (est.) X.B. 3665 (est.)

Spud Date: 11:30AM May 2, 1972

Finished Drilling: 7:20 P.M. August 12, 1972

Status: Suspended

Total Depth: 10,499' (Driller)

Bottom Formation: Unnamed Shale

Geologist: Harold H. Williams

SURFACE CASING: Ran 32 Jts. 959.82' 13 3/8" K-55 54.5# CSG. Landed @ 956.82' K.B. with 240 sacs Fondue & 760 sacs Oilwell Cement. Plug down @ 1:53 A.M. May 10, 1972.

INTERMEDIATE CASING: Ran 83 Jts. 3180' 95/8" K-55 36 & 40# CSG. Landed @ 3178' K.B. with 650 sacs oilwell cement. Plug down @ 8:00 A.M. July 21, 1972.

CORES: #1 5695-5715
#2 6852-6874
#3 7029-7053
#4 10475-10492

LOGS: Dual Induction Laterolog
BHC Sonic Gamma Caliper
Formation Density
Dipmeter

—LEGEND—

	Breccia		Dolomite, streak
	Conglomerate		Sandy
	Granite Wash		Silty
	Sandstone		Calcareous
	Siltstone		Dolomitic
	Shale, light color		Anhydritic
	Shale, med. color		Gypsiferous
	Shale, dark color		Chart, light & dark
	Shale, black		Argillaceous
	Marlstone		Glaucous
	Limestone		Salt Cast
	Dolomite		Nodules
	Anhydrite		Bioclastic or Frag.
	Gypsum		Oolites
	Salt		Pellets
	Coal		Pyrite
	Glacial Till		Fossils
	Igneous		Carbonaceous
	Volcanic		Earthy
	Metamorphic		Chalky
	Marl, limy		Lithographic
	Marl, dolomitic		Cryptocrystalline
	Limestone, streak		No Samples

POR	GOOD	>20%
	FAIR	12-20%
	POOR	8-12%
	TRACE	<8%

GRAIN SIZE	VERY FINE
	FINE
	MEDIUM
	COARSE
	VERY COARSE

- Oil, heavy stain
- Oil, med, poor or spotty stain
- Oil, light, questionable stain
- D Oil, dead or asphaltic
- † Gas, (positive test)
- W Water, (positive test)

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: May 8/72

INTERVAL SHOWN: 0 - 400

PAGE NO. 1

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS	
					0	5	10	15	20		25
Bit 1A @ 00				0							
				3/4							Sh blk sub-fis mica dis pyr frac w calc infil in pt sil
				100							Sh Aa micro-mica to phyllitic fis
				1/2							
				1/2							
				1							Sh Aa in pt carb sl calc
				200							
				3/4							
				1							Sh Aa var calc
				300							Sh Aa w abnt calc fill frac & dis wh calc thru
				11/8							
Bit 2A @ 356'				2							Sh Aa in pt carb
				17/8							Tr cht
				400							

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: May 8/72

INTERVAL SHOWN: 400 - 800

PAGE NO. 2

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
				400°						
				23/4°						
				23/8°						Sh Aa incr wh calc fill frac
				23/8°						
				500°						
				23/8°						
				21/4°						Sh Aa v pyr
				21/2°						Sh dk gy & blk fis to blk ashy appearance dis pyr & wh calc frac mica to phyllitic
				21/2°						
				600°						
				2°						Sh blk fis micro-mica to phyllitic dis pyr in pt calc frac
Bit 3A @ 645'										Sh Aa w occ th ls str
				21/4°						dk gy-blk arg v f xl
										Sh incr blk v frac
				21/2°						Sh Aa v frac brecc calc
				700°						cem v pyr tr slickenside
				23/4°						
Bit 4A @ 755'				23/4°						
				2/34°						
				800°						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: May 18-19/72

INTERVAL SHOWN: 2400 - 2800

PAGE NO. 7

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
				2400°						Sh dk gy sub-fis to blk
				41/4°						micro-mica in pt carb v
										calc Mnr Ls intbds md gy
				41/4°						mott vf-f xl arg slty tt
Bit # 5 @ 2442'										grdg to v calc Sh Tr crin
				31/2°						Ls md gy mott vf-f xl mnr
				2500						md xl arg sl dol & sil tr
										fltq qtz gr tt Mnr Sh
										Ls Aa in pt crin arg to
										v arg chty tt grdg to Sh
										dk gy v calc foss chty
										Sh dk gy blk calc to v
				4°						calc Tr Ls intbds Tr frac
										Occ th sil intbds
				2600						
				4						Ls md gy aph to v f xl
										sl arg sil tt & Sh dk gy
										blk calc Abnt wh vein calc
										Sh dk gy to blk sub-fis
										micro-mica carb sl calc
										Occ th Ls & sil intbd
				2700						
										Sh Aa & Ls md gy mott vf
										xl sil arg in pt sdy tt
										Mnr sil intbds
				3						
										Sh Aa wi mnr Ls intbds
				2800						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: May 23-24/72

INTERVAL SHOWN: 3600 - 4000

PAGE NO. 10

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.				DESCRIPTION & REMARKS
					5	10	15	20 25	
Bit # 8 @ 3604'				3600					
Twisted collar									
box off @ 3604'									
6 hrs fishing									Sh dk gy to blk fis to
									sub-fis sl carb pyr non-
				81/4					calc
				81/4					
				3700					
				8'					Sh dk gy to blk blk
									slty calc micro-mica pyr
									sl carb Tr th v calc intob
Bit #9 @ 3750'				73/4					
				91/2					
				3800					Sh Aa Frac wi abnt wh qtz
									& calc
				10'					
									Sh dk gy to blk blk slty
				93/4					sl sil micro-mica in pt
									sl carb tr diss pyr Abnt
				10'					wh calc & qtz fill frac
				3900					
				93/4					
				91/2					
				10'					
				4000					

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: May 27-28/72

INTERVAL SHOWN: 4000 - 4400

PAGE NO. 11

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
		^ "		4000°						
		^ "		9°						
		^ "		10°						
		^ "								
		^ "								
		^ "								
		^ "								
		^ "		9 1/2°						
		^ "								
		^ "		4100°						
		^ "		9 3/4°						
		^ "								Sh Aa bcm sl less slty &
		^ "								Sh dk gy to blk sub-fis
		^ "		9 3/4°						carb micro-mica
		^ "								
		^ "		10°						
		^ "								
		^ "								
		^ "		9 3/4°						
		^ "		4200°						
		^ "								Sh dk gy blk slty sl sil
		^ "								sl calc mica Tr blk Sh Aa
		^ "								
		^ "		9 3/4°						
		^ "								
		^ "								
		^ "								
Bit #10 @ 4292'		^ "		4300°						
		^ "								Shdk gy sub-fis & blk fis
		^ "		9 3/4°						carb pyr sl calc micro-mica
		^ "								md soft Tr calc sdy intbds
		^ "								Occ mnr frac
		^ "								
		^ "								
		^ "								
		^ "		9°						
		^ "		4400°						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: May 29-31/72

INTERVAL SHOWN: 4400 - 4800

PAGE NO. 12

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.				DESCRIPTION & REMARKS
					5	10	15	20 25	
				4400					
Bit #11 @ 4426'				9'					
				4500					
Bit #12 @ 4511'				31/2'					Sh dk gy to blk sub-fis carb non-calc micro-mica tr diss pyr md hd Tr qtz intbds
									Sh Aa in pt slty
				4600					
				31/4'					
									Sh blk fis to sub-fis carb pyr In pt slty
10' CORRECTION									
				4700					Sh Aa bcm sl sil
									Sh blk sub-fis to blk in pt slty sl sil md hd carb pyr in pt sl calc micro- mica
				9'					
				4800					

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: June 11-15/72

INTERVAL SHOWN: 5200 - 5600

PAGE NO. 14

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
				5200						
		△ c		12½'						
		△ c								
		△ c								
		△ c		12'						
		△ c								
		△ c								
Bit # 17 @ 5274'		△ c		12½'						
		△ c								
		△ c		12¾'						
		△ c		5300						
		△ c								
		△ pc								
		△ e		13'						Sh dk gy to blk blk to
Bit # 18 @ 5340'		△ c								sub-fis carb micro-mica
		△ c		12½'						tr pyr md soft var sil &
		△ c								sl calc
		△ c								
		△ c		5400						
		△ c								
		△ c								
Bit # 19 @ 5443'		△ c		11½'						
		△ e								
		△ c								
		△ pc								Sh dk gy to blk sub-fis
		△ c								carb calc md soft to md
		△ c		11½'						hd tr diss pyr micro-mica
Bit # 20 @ 5497'		△ c								Sh dk gy to blk blk var
		△ c		5500						sil & calc md to hd Occ
		△ c								th calc intbd
		△ c								
		△ c								
Bit # 21 @ 5563'		△ c								Sh dk gy to blk sub-fis
Drill 8¾" Hole		△ c		10½'						carb calc md soft tr pyr
		△ c								mivro-mica Occ th calc sd
		△ c								intbds
		△ c		5600						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT. 0-18

DATE: June 23-25/72

INTERVAL SHOWN: 6000 - 6400

PAGE NO. 16

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
		pc		6000						Sh blk fis to sub-fis
Bit #26 @ 6020'		pc		17'						carb diss pyr thru micro-
		pc								mica md hd
		pc		18'						
		pc								
		pc		18'						
		pc								
		pc		6100						
Bit #27 @ 6134'		pc		17'						
		pc								
		pc		16½'						Sh Aa wi tr hem st.
		pc								
		pc		14¾'						
		c								
		pc								
		pc		6200						
		pc								Sh dk gy to blk fis carb
Bit #28 @ 6225'		c		15'						diss pyr non-calc Abnt wh
		pc								vein calc & qtz Abnt lt
		pc								gy calc Ss Hvy frac
		pc								Sh dk gy to blk carb sub-
		pc		15'						fis to fis diss pyr micro-
		pc								mica Tr frac & wh vein calc
		pc								
		pc		6300						
		pc								
		pc		16'						
		pc								
		pc								Sh Aa & Ls intbd md gy mott
		pc		17'						cse xtal sl arg abnt crin
		pc								frag fltg qtz gr sdy Abnt
		pc								calc qtzite
		pc								Sh dk gy to blk sub-fis
		pc		18'						carb pyr sl calc micro-mica
		pc		6400						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: June 26-30/72

INTERVAL SHOWN: 6400 - 6800

PAGE NO. 17

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
		CP		6400						
		PC								
		PC		19½						
		PC								
		PC		20						Sh dk gy to blk sub-fis
		PC								mnr diss pyr carb micro-
		PC								mica Occ th calc Qtzite
		PC		20						intbd
		PC								
		PC		6500						
		PC								
Bit #29 @ 6525'		PC		21						
		PC								
Bit #30 @ 6548'		PC		22						Sh Aa & Ss lt-md gy p srt
		CP								sub ang v calc grdg to v
		CP								sdv Ls tt
		CP		21						
		P								
		P								Sh dk gy to blk carb sl
Bit #31 @ 6611'		PC		6600						calc sub-fis diss pyr thru
		PC		22						
		PC								
		PC		22						
		PC								
		PC								
		PC								
		PC								
		PC								
		PC		20						
Bit #32 @ 6706'		PC		6700						
		PC								
		PC								
		C								
		C								
		C								
		C		19½						Sh dk gy blk to sub-fis
		C								calc sl carb micro-mica
		C								mnr diss pyr
Bit #33 @ 6788'		C		21						
		C								
		C								
		C		6800						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: July 1-6/72

INTERVAL SHOWN: 6800 - 7200

PAGE NO. 18

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
				6800'						
				22'						
Bit # 2B 6852'										Core # 2 @ 6852 - 6874
Bit # 34 @ 6852'										Cut 22' Rec. 22' Sh dk gy blk var calc & sil blk
										Bd @ 45' Frac 90' to bd
Bit # 35 @ 6900'				6900'						
				21'						Sh dk gy blk v calc
Bit # 36 @ 6943'										
										Sh Aa wi mnr Ls intbds lt dk gy v f xtal sdy tt
Bit # 37 @ 6992'				20'						
				7000'						
Bit # 3B & 38 7029'										Core #3 @ 7029-7053 Rec. 20.5 Ls md dk gy v f xtal sdy arg wi intbd Sh dk gy to blk
										blk calc bd @ 30'-40'
										Sh blk sub-fis non-calc
Bit #39 @ 7076'				20'						Sh Aa wi intbd Ls lt md gy mott vf xtal sdy tt
				7100'						
				20'						
				19 1/2'						Ls Aa bcm v sdy grd g to calc Ss Mnr Sh dk gy blk Abnt dk gy-blk cht
				7200'						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: July 7-9/72

INTERVAL SHOWN: 7200 - 7600

PAGE NO. 19

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
				7200						Sh dk gy blk sub-fis to blk calc sl carb
				19½						Sh Aa wi intbd Ss It md gy vf gr v calc tt grd to v sdy Ls
				7300						
				19°						
				7400						
Bit #40 @ 7409'				19°						
		X								Lost Circulation - No Samples
				18°						Sh dk gy blk calc slty chty wi intbd Ss vf to slty calc grd to calc sltst Mnr v sdy Ls intbds
				7500						
				19°						Ls lt-md gy vf xtal v slty tt grd to v calc sltst
Bit #41 @ 7562'										Sh dk gy blk calc tr diss
Bit #42 @ 7568'										pyr Intbd Ls & sltst Aa
				7600						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: July 10-13/72

INTERVAL SHOWN: 7600 - 8000

PAGE NO. 20

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
				7600						Sh dk gy-blk sub-fis calc
										to non-calc wi intbd sltst
										lt md gy v calc & Ss v f gr
										Mnr Ls lt gy slty & md gy
										aph sl arg
										Lost Circulation- Poor
										Sample
Bit #43 @ 7685'										Sh dk gy blk chty Abnt wh
										vein calc frac
				7700						
Bit #44 @ 7723'										Sltst lt-md gy v calc grdg
										to v slty Ls Sh Aa V chty
				19'						Sh Dk gy to blk blk to
										sub-fis sl sil to sl calc
										v chty(dk gy) Mnr intbd
										sltst
				20'						
				7800						Sh dk gy to blk blk hd
										sil sl calc chty Mnr intbd
										sltst
				19'						Sh & cht Aa Mnr intbd Ls
										Ss lt gy vf gr v calc
				7900						
										Abnt wh vein calc - frac
				18'						Ls lt-md gy vf xtal suc
				8000						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: July 14-16/72

INTERVAL SHOWN: 8000 - 8400

PAGE NO. 21

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.					DESCRIPTION & REMARKS
					5	10	15	20	25	
Bit #45 @ 8013'		" "		8000'						sl arg slty grdg to calc sltst
		" "								Sh md gy blk calc wi mn calc sltst & slty Ls
		" "		161'						
		" "								Sh dk gy-blk sub-fis tr
		" "								diss pyr sl carb
		" "								Sh blk fis to sub-fis carb
		" "		8100'						pyr non-calc in pt sl sil
		" "								
		" "								
		" "		17'						
		" "								
		" "								
		" "		8200'						
		" "								
		" "		17½'						
		" "								
		" "								
		" "		8300'						
		" "								
		" "								
		" "								
		" "		8400'						

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: July 31-Aug 2/72

INTERVAL SHOWN: 9200 - 9600

PAGE NO. 24

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.	DESCRIPTION & REMARKS
		△	P	9200		
		△	P			
		△	P			
		△	P			
		△	P			
		△	P			
		△	P	21°		
		△	P			
		△	P			
		△	P			
		△	P	9300		Sh Aa wi Sh dk gy-blk sub-
		△	CP			fis carb pyr Tr wh calc &
		△	P			slickensides
		△	CP			
		△	P			
		△	CP			
		△	P			
		△	CP			
		△	P	9400		
		△	CP			
		△	P			
		△	CP			
		△	P			
		△	CP			
		△	P			
		△	CP			
		△	P	18°		
		△	CP			
		△	P			
		△	CP			
Bit #52 @ 9462'		△	P			
		△	CP			
		△	P			
		△	CP			
		△	P			
		△	CP			
Bit #53 @ 9490'		△	CP			Stuck 14 hrs @ 9490'
		△	CP	9500		Sh dk gy to blk fis to sub
		△	P			fis sl carb & pyr in pt
		△	CP			sil hd Tr qtz filled frac
		△	P			
		△	CP			
		△	P			
		△	CP			
		△	P			
		△	CP			
		△	P	9600		

WELL HISTORY LOG

WELL NAME: INEXCO et al. MALLARD YT 0-18

DATE: Aug 3-7/72

INTERVAL SHOWN: 9600 - 10,000

PAGE NO. 25

CORES & TESTS	POR.	LITHOLOGY	GRAIN SIZE	DEPTH	MIN./FT.				DESCRIPTION & REMARKS
					5	10	15	20 25	
				9600°					Sh Aa bcm dk gy
Bit #54 @ 9611'				17'					
									Sh dk gy sub-fis to blk y
									sl carb hd sil non-calc
									diss pyr thru micro-mica
				9700					
Bit #55 @ 9727'									
									Sh Aa wi abnt wh vein qtz
Bit #56 @ 9802'				21'					frac in pt carb slty text-
									ure
									Sh dk gy-blk sl carb v sil
									hd pyr concoidal fracture
									non-calc Tr qtz filled frac
Bit #57 @ 9936'				20'					
				10000					

SECTION VANALYSISINEXCO et al MALLARD YT 0-18(a) CORE ANALYSIS

Although four cores were cut in this well, none were analyzed.

(b) WATER ANALYSIS

None

(c) GAS ANALYSIS

None

(d) OIL ANALYSIS

None