GEOLOGICAL REPORT

EXCO et al CAMERON 1 - 16

60°05' 42.57"N, 117°32' 01.81"W

PREPARED FOR

EXCO ENERGY LTD.

FEBRUARY, 1985

H. Steghaus, Ph.D., P. Geol.

TABLE OF CONTENTS

PERTINENT DATA

WELL NAME:	EXCO et al CAMERON 1 - 16		
LOCATION:	60°05' 42.57"N, 117°32'01.81"W		
ELEVATIONS:	Ground: 731.4 m	K.B.:	735.4 m
TOTAL DEPTH:	Driller 1490 m	Logger:	1489.7 m
WELL TYPE:	Exploratory		
STATUS:	Cased gas well		
OPERATOR:	EXCO ENERGY LTD.		
CONTRACTOR:	ARNCO DRILLING LTD., RIG # 1		
SPUD DATE:	January 21, 1985		
RIG RELEASED:	February 16, 1985		
DITCH SAMPLES:	Company: 380-1490 m	Government:	380 - 1490 m
CORED INTERVALS:	None		
D.S.T.:	5		
LOG RECORD:	Computalog,	DIL:	376.0 - 1489.0 m
		CD-CNL	376.0 - 1488.3 m
CASING RECORD:	244.5 mm,	Surface - 377.2 m	
	139.7 mm,	Surface -1489.85 m	

GEOLOGICAL MARKERS

MARKER	PROGNOSIS m	SAMPLE m	LOG m	SUBSEA m	THICKNESS m
Wabamum	505	510	504.4	+231.0	49.6
Winterburn	535		554.0	+181.4	239.0
Twin Falls	786		793.0	- 57.6	154.4
Hay River	943		947.4	-212.0	288.6
Beaverhill Lake		1240	1236.0	-500.6	31.5
Muskwa		1270	1267.5	-532.1	18.8
Slave Point	1287	1290	1286.3	-550.9	54.7
Watt Mountain	1333	1340	1341.0	-605.6	6.0
Bistcho	1349	1350	1347.0	-611.6	13.4
Sulphur Point		1365	1360.4	-625.0	29.6
Muskeg	1360	1390	1385.0	-654.6	52.0
Keg River	1437	1445	1442.0	-706.6	30.2
Predevonian	1462	1475	1472.2	-736.8	

SAMPLE DESCRIPTION

1220 - 1225 m	Shale, gray, slightly greenish, part slightly calcareous and micromicareous, slightly pyritic
1225 - 1230 m	Shale, dark gray to gray, part calcareous, part slightly micromicareous, slightly pyritic; stringers of limestone, gray to buff, microcrystalline, part silty
1230 - 1235 m	Shale, dark gray to gray, part calcareous, part micropyritics, one tentaculites; stringers of siltstone, gray to buff, slightly micropyritic
	BEAVERHILL LAKE 1240 m
1235 - 1240 m	Shale, black, slightly calcareous, part micro-micaceous; stringers of limestone, gray, micro-crystalline, part argillaceous, few brachiopod fragments
1240 - 1245 m	Shale, black to dark brown, calcareous, micropyritic
1245 - 1250 m	Shale, gray calcareous, part silty; stringers of limestone, buff, microcrystalline; shale as above
1250 - 1255 m	Shale, greenish gray to gray, calcareous, part micromicaceous; stringers of siltstone, buff, calcareous
1255 - 1260 m	Shale, gray to dark gray, part slightly greenish and calcareous; stringers of siltstone as above
1260 - 1265 m	Shale, greenish gray, calcareous, part micropyritic; stringers of siltstone as above
	MUSKWA 1270 m
1265 - 1270 m	Shale, black, part white speckled (stylolina), calcareous, part micropyritic, few fish remains
1270 - 1275 m	Shale, black to black brown, part white speckled, calcareous; shale, gray, calcareous, part micro-pyritic; limestone, buff to gray and argillaceous, few brachiopod fragments; trace pyrite

1275 - 1285 m	Shale, greenish gray, calcareous, some pieces silty; limestone, buff to light gray and argillaceous, crypto - to microcrystalline, trace vuggy porosity with coarse calcite lining, some brachiopod fragments and ostracods; trace pyrite
	SLAVE POINT 1290 m
1285 - 1290 m	Limestone, tan to buff and light gray, argillaceous, pyritic, few brachiopod fragments; shale gray and calcareous, grading to marlstone
1290 - 1295 m	Limestone, brown to cream, cryptocrystalline, part argillaceous, slightly pyritic
1295 - 1300 m	Limestone, brown to cream and buff, crypto - to microcrystalline, few pieces mottled and fragmental, one very small calcite druse with faint condensate staining; stringers of shale, black, pyritic
1300 - 1305 m	Limestone, cream to brown, some pieces mottled and fragmental, cryptocrystalline, trace poor pin-point and vuggy porosity, some condensate staining.
1305 - 1310 m	Limestone, tan to cream, few pieces brown, crypto - to microcrystalline, poor vuggy and pin-point porosity, selective condensate staining
1310 - 1315 m	Limestone, brown to tan, cryptocrystalline, trace very poor pin-point porosity, some condensate staining
1315 - 1320 m	Limestone, cream to brown, crypto - to microcrystalline, some pieces pelletoidal, few stylolites, trace vuggy porosity with residual oil, little condensate staining, few brachiopod fragments
	FORT VERMILION 1325 m
1320 - 1325 m	Anhydrite, cream to brown, cryptocrystalline; slightly pyritic, limestone, brown, cryptocrystalline, and anhydritic
1325 - 1330 m	Anhydrite, tan to cream, crypto - to microcrystalline, one piece medium, limestone, brown, cryptocrystalline, part fragmental, part anhydritic
1330 - 1335 m	Anhydrite, buff to tan, microcrystalline

WATT MOUNTAIN 1340 m

1335 - 1340 m	Dolomite, brown to light gray, microcrystalline; stringers of shale, light gray, calcareous, few brachiopod fragments, trace shale, green, waxy, micropyritic, calcareous
1340 - 1345 m	Shale, green, waxy pyritic, calcareous, few crinoid ossicles; stringers of limestone, brown to tan, micro - to cryptocrystalline, some brachiopod fragments

BISTCHO 1350 m

1345 - 1350 m	Limestone, cream to brown, cryptocrystalline, part fragmental, some pieces pelletoidal, pyritic; little shale as above
1350 - 1355 m	Limestone, tan to cream, cryptocrystalline, little coarse vug fill, few pieces fragmental, spotty very poor pin-point porosity, trace condensate staining.
1355 - 1360 m	Limestone, cream to brown, crypto - to microcrystalline, part pelletoidal, trace very poor porosity (leached pellets), trace condensate staining, few stylolites

SULPHUR POINT 1365 m

1360 - 1365 m	Dolomite, brown to tan, micro to very finely crystalline, some vug fill, little condensate staining; largely shale cavings
1365 - 1375 m	As above; some poor vuggy porosity, selective condensate staining.
1375 - 1380 m	Dolomite, tan to brown, micro to finely crystalline, trace vuggy porosity and condensate staining
1380 - 1385 m	Dolomite, brown to tan, micro to very finely crystalline, little very poor intercrystalline and vuggy porosity, spotty condensate staining

MUSKEG 1390 m

1385 - 1390 m	Anhydrite, cream, cryptocrystalline

1390 - 1395 m	Dolomite, light brown to tan, microcrystalline some very poor intercrystalline porosity and spotty condensate staining, anhydrite, cream to buff and tan, crypto - to microcrystalline
1395 - 1400 m	Anhydrite, cream to tan, crypto - to microcrystalline, stringers of dolomite, brown to tan; very finely to microcrystalline
1400 - 1410 m	Anhydrite, tan to buff and white, crypto - to microcrystalline
1410 - 1415 m	Anhydrite, cream, cryptocrystalline
1415 - 1425 m	Anhydrite as above; dolomite, brown, microcrystalline, very poor intercrystalline and pin-point porosity, spotty condensate stain
1425 - 1430 m	Dolomite, tan to brown, very finely to microcrystalline, trace very poor intercrystalline porosity and condensate stain; anhydrite, cream to tan, crypto - to microcrystalline
1430 - 1435 m	Anhydrite, cream to tan; cryptocrystalline; little dolomite as above
1435 - 1440 m	Anhydrite as above
	KEG RIVER 1445 m
1440 - 1445 m	Anhydrite, cream to tan, crypto - to microcrystalline; dolomite, tan to dark brown, micro - to very finely crystalline, trace vuggy porosity; trace pyrite
1445 - 1450 m	Dolomite, brown, very finely crystalline, poor to fair intercrystalline porosity, fair light oil staining
1450 - 1455 m	Dolomite, brown to dark brown, very finely to microcrystalline, trace coarse vug lining, some fair to good intercrystalline and vuggy porosity, some fair to good light oil staining
1455 - 1460 m	Dolomite, dark brown to tan, very finely to microcrystalline, some medium crystalline vug lining; some pieces finely pyritic, probably some vuggy porosity

1460 - 1465 m	Dolomite, dark brown to buff, microcrystalline, some fine crystalline vug fill, some vuggy porosity
1465 - 1470 m	Dolomite, dark brown to tan, micro - to very finely crystalline, vug fill and lining common, probably poor to fair vuggy porosity
	PREDEVONIAN 1475 m
1470 - 1475 m	Dolomite, dark brown to tan, micro - to finely crystalline, part argillaceous, few stylolites, probably few amphipora; quartzite, white to clear
1475 - 1480 m	Quartzite, white to buff, few pieces micropyritic; shale, green waxy and pyritic, probably fracture fill
1480 - 1490 m	Quartzite, white to buff

D.S.T. SUMMARY

Test #1: ✓

1295 - 1320 m; Slave Point
15/60/60/120

PF: Strong air blow; gas to surface in 9 mins. at 9128 m^3/d

VO: Gas to surface immediately; leveling at 8537 m^3/d

Recovery: 36 m Ammonia and inhibitor water
79 m gasified drilling mud

IHP:	14326 kPa	FHP:	14239 kPa
PFP:	971 kPa		
IFP:	883 kPa	FFP:	794 kPa
ISIP:	11165 kPa	FSIP:	11165 kPa

Test #2:

1435 - 1454 m; Keg River
15/60/60/120

PF: Strong air blow; gas to surface in 2 mins. at 44355 m^3/d

VO: Gas to surface immediately; fluid after 18 mins., fine mist throughout

Recovery: 50 m slightly gas cut saltwater; some inhibitor and condensate cut

IHP:	16725 kPa	FHP:	16555 kPa
PFP:	4271 kPa		
IFP:	3585 kPa	FFP:	4614 kPa
ISIP:	10597 kPa	FSIP:	10257 kPa

1414 - 1420 R. TURNER

Test #3:

~~1435 - 1454~~ m; Muskeg
15/60/30/60

PF: Very weak air blow; dead in 3.5 mins..

VO: Few initial air bubbles

Recovery: Combined with D.S.T. #4

IHP:	16555 kPa	FHP:	16384 kPa
PFP:	512 kPa		
IFP:	683 kPa	FFP:	341 kPa
ISIP:	341 kPa	FSIP:	341 kPa

Test #4:

1390 - 1396 m; Muskeg
15/30/30/60

PF: Few initial air bubbles

VO: Very weak air blow for 2 mins; occasional air bubbles for 10 mins..

Recovery: 20 m gasified mud; top of column inhibitor and ammonia cut

IHP:	16555 kPa	FHP:	16384 kPa
PFP:	512 kPa		
IFP:	512 kPa	FFP:	512 kPa
ISIP:	683 kPa	FSIP:	512 kPa

D.S.T. SUMMARY

Test #5: 1360 - 1376 m; Sulphur Point
15/60/60/120

PF: Strong air blow; gas to surface in 6.5 mins..

VO: Gas to surface immediately; increasing to 1250 kPa (12.7 mm surface choke); dropped to 220 kPa; 7983 m^3d

Recovery: 20 m ammonia and inhibitor water; 85 m gas cut mud

IHP:	15764 kPa	FHP:	15597 kPa
PFP:	1177 kPa		
IFP:	673 kPa	FFP:	841 kPa
ISIP:	9438 kPa	FSIP:	9267 kPa