Amoco Production Company

Surface Log

Name REPETITION RIDGE SECTION

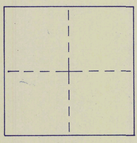
COUNTY _____ **STATE** CANADA

LOCATION 66°37'*N 140°24'*W **Sec.** ____ **TWN** ____ **RNG** ____

MEASURED BY A. Ormiston, L. Furer, G. Self **DATE** 7/29/71

INTERVAL PreCambrian Qzite - Ogilvie

REMARKS _____



TOP OF SECTION IS A CREST OF HILL.

Ls, med. gray, micritic, weathers light gray.
Bedding plane burrows--Probably not Ogilvie

Mid. Ord. — GW899L

Probably a fault at base of unit. Unit appears to be repeated Ordovician

Mudstone, as below. Upper half covered.

GW896L — Dolomite, med.gray, med. crystalline, chertified layers, weathers light gray.

Mudstone, dark gray, siliceous, mostly covered

L. Ems or Eif. — GW897L

Ls, crinoidal grainstone.

Interbedded, med.gray & maroon mudstone and ls. as below.
Ls, contains fragments of mudstone. Ls is dense, dark gray, wackestone, no crinoids.

Ls, med. gray, crinoidal (two-holers) wackestone-Middle Devonian Ogilvie

Interbeds of crinoidal packstone. Also scattered calcite veins.

L. Ems. or Eif. — GW895L

Top of Gossage Fruivalent ?
Interbedded fine-grained SS and gray to brown mudstone (Gossage Equivalent)
SS is subangular-subround, slightly silty, quartzose, well cemented, x-bedded.
Mudstone is siliceous and several shades of brown & gray.

SS, contains crinoid impressions.

Plant remains in mudstone in fault block below, indicate Early Devonian Age.

E. Dev. — GW894L — Psilophytid plants (Emsian?)

E.-Mid. Dev. — GW893L

Ls, as below. Dip: 360°/ @ 2°
A fault block of mudstone (Gossage) and crinoidal limestone (Ogilvie) in saddle not measured.

Fault

Ls, med. gray, micritic, replaced in places by huge calcite rhombs, thin-med. bedded. Burrow casts on bedding planes
Becomes dark gray upward

early Mid.Ord. — GW873L — Trilobites-in med. gray micritic ls.

E. Ord. — GW892L

GW891L — Crinoid fragments
Dip: 20°S
Possibly very slightly silty

late E.Ord — GW890L — Probably nautiloids in dark gray ls.
Recrystallized, indeterminant, twiggy corals

E. Ord. — GW889L — Nautiloid
Ls, dolomitic, finely crystalline, med. gray. Med. gray, bedded chert at base.

Ls, med. gray, micritic, weathers light gray, interbedded w/limy dolomite

GW888L

E. Ord. — GW887L

Dolomite, limy, light gray, scattered chertified algal heads, weathers very light gray, med. crystalline, vuggy.

Dolomite, light-med. gray, abundant calcite veins, limy, vuggy.

E. Ord. — GW886L

Dolomite, med.-dark gray, coarsely crystalline.

GW885L — Dolomite, as below, but only scattered stromatolites.

Dolomite, abundantly stromatolitic, as below, highly chertified.

GW884L — Dolomite, microcrystalline, black chert nodules & stringers, laminated thin bands of stromatolites. Some pinpoint vuggy porosity.

Dolomite, as below, but w/abundant chertified stromatolites, med.-dark gray.

Dolomite, light gray, as below, but stromatolitic, good pinpoint vuggy porosity. Some of the chert is in the form of nodules. Flat pebble conglomerate in float.

GW883L — Dolomite, med. gray, med. crystalline, recrystallized, w/stringers of black chert, laminated, weathers light-med. gray. Chert is incompletely replacing laminae. Med.-thick bedded, becoming lighter toward top of unit.

GW882L

Dip = 28°S

GW881L — Qzzite, fine-grained, clean, siliceous cement (PŁ) contact w/dolomite, is possibly an angular unconformity

Started section in Stream Valley at contact between qtzite (PŁ) and Early Paleozoic Carbonates.

Repetition Ridge Section
The Cambro-Ordovician part of this section is well exposed from the valley floor along a south tributary of the Salmon Fork of the Black River up the east side of a mountain. The measured section was then offset to the northeast along a strike ridge of Ordovician Limestone. Most likely a minor reverse fault occurs at this point in the section, and Early Devonian shales and carbonates are repeated. The contact was not obvious; however, an unconformity is likely between the Ordovician and Devonian rocks.

The upper 1000' of the section was measured along a northwest extending spur. Ordovician rocks are repeated at the top of the section by reverse faulting.

The Cambrian here is no more than 600' thick and is stromatolitic bearing dolomite. It rests with probable unconformity on quartzites of Precambrian age. The Cambrian grades upward into a thick section of Early Ordovician dolomites and limestones. A thin Middle Ordovician limestone is present below Early Devonian Gossage mudstones. The Gossage here is Emsian and contains both plants and crinoids.

Approximately 400' of limestone, shale, and dolomite above the Gossage is best assigned to the Ogilvie Formation. The Ogilvie is faulted out at the top by a repeat of Early(?)-Middle Ordovician Limestone.