Formations to be Encountered:

Morryl Limestone (Rock Formation) - A buff, fairly hard limestone with a molluscan fauna. Only one good outcrop of this limestone was found and it measures 1.5' thick.

Florence Shale (Common Formation) - Hard, gray to olive green, calcareous shale. Contains abundant brachiopods and a fairly large amount of bryozoans. The thickness of this shale is 4.3'.

Cottonwood Limestone (Rock Formation) - Gray to light gray and buff, massive to slaty bedding (massive when unweathered), contains an abundant amount of crinoids and shells. The color is largely in the upper part. Medium grained and hard. Lower 4 to 7 shaly. The thickness of this limestone is fairly consistent with a change from 6.1' to 6.5' with a good average thickness of 5.3'.

Enkridge Shale (Common Formation) - Green and red shale. Shale is fairly hard, can withstand weathering. 7.0' below the Cottonwood Limestone (Top Enkridge sh.) is a 3' white lime hard shale. The average thickness is 33.9', varying from 32.3' - 35.8'.

Neva Limestone (Rock Formation) - Gray to light buff limestone with some parts composed of buff and black shale. The upper 6.8' (varies 8.0'-8.5') is gray to light buff limestone, the upper 6.5'-6.7' is thin-bedded, in part, platy, fine grained, mesoliticous, shows vertical joints. At the base of this 8.2' is a 1.5'-2.0' massive ledge, which has a hard platy shale at the base, 1.3'-1.5' containing fusulinids. Below this massive ledge with shale (gray buff) at the base is a black clay shale, usually about 1.5'. At the base of the black shale is a 7' hard, gray to buff, medium grained limestone. Below this 7' is 2.9' of gray and buff calcareous shale. The thickness of this may vary from 2.6'-3.5'. At the base of this lime there is a 1.2' (1.0'-1.2') hard, fine grained blue-grey to buff limestone. The total thickness of the Neva Limestone is 16.7'.

Salem Point Shale (Common Formation) - Gray and buff shale with one hard lime shale. The upper 3.2' (2.5'-3.5') is gray to buff calcareous shale with thin hard plates. Below this shale there is a 1.3' (1.0'-1.5') hard, buff, chalcy limestone which would be classified as mud. Below this 1.3' chalcy limestone is 1.5' (1.3'-1.5') gray green clay shale, which is the base of the Salem Point Shale. The total average thickness is 8.0'.

Burr Limestone (Rock Formation) - Gray to buff limestone, chalcy limestone, buff and black shale. The upper 2.9' is divided, the upper 1.2' being a gray limestone, weathering into a roughly cubic shape, hard; the lower 1.7' is a gray chalcy limestone. Underlying this upper 2.9' is 3.5' shale, which is divided; the upper .9'-1.0' being a buff shale and the lower 2.4'-2.8' a black chalcy (clayey). The lower part of the Burr is a 2.3' line, gray to buff, fine grained, containing a few bryozoans and has a .3' grey color parting in the middle. The total average thickness is 9.6'.
Roca Shale (Common Excavation) - The upper 4,5' is gray-green shale with some parts of black shale. Below this 4,5' is a 2,5' shaley limestone which is hard (rock), gray-buff. The base of this is called Point B. Below this shaley limestone is green shale (10,9'). At the base of the green shale is the lower 1,1' very fine lime-mud. The classification of this lime-mud is rather difficult. It is fairly hard, but has so many solution holes that it may be classified as common excavation. Below this lime-mud limestone is 2,5' shale, gray. The total average thickness is 21,0'.

Roca Lime-mud (Rock Excavation) - 1,1' of gray to buff lime-mud. Varies from a very lime-mud lime-mud to a fairly hard and blinding member.

Roca Shale (Common Excavation) - Gray and buff shale. Thickness is 6,0'.

Glacierake Lime-mud (Rock Excavation) - As the top is a 2,5' gray to buff lime-mud. Below this lime-mud is 3,4' of hard plasti gray shale, the basal part of this member is taken by a 3,5' gray shale. This shale member would be classified as rock without doubt. Its thickness is 6,0'.

Johnson Shale (Common Excavation) - Gray, green and black shale. The black shale occurs at the top and is not persistent. The thickness of this shale is 16,5'.

Log Creek Lime-mud (Common Excavation) - This member is 6,0' thick and composed of gray and buff shale with an abundance of lime parts. The bedding is fairly irregular. This member would be classified as rock excavation.

Hughes Creek Shale (Common Excavation, with exceptions) - The Upper 7,1' of this member is gray and green shale, at the base there is a 7,1' light buff, lime-mud, fossiliferous (mollesca), below this 7,1' lime-mud is 1,1' gray shale, which has a 1,0' light buff lime-mud at the base. Both the 7,1' and the 1,0' lime-mud would be classified as rock. Below the 1,0' there is approximately 4,5' of gray shale, which has 2,5' gray to buff, gray to buff, 1,0' green-shale; 5' dark grey hard shale; 3' black hard lime shale; 5' dark grey clay shale; 2,0' (3) gray to buff fossiliferous (tubicolous, crinoid remains and mollusca), 5' gray shale; 1,1' (3) buff, massive hard, contains brachiopods, bryozoans; 3,4' gray shale; 1,2' shale-limestone; the basal part of this member is gray, buff and green hard shale. The total thickness is 36,5'.

Accum. Lime-mud (Rock Excavation) - Upper part is 3,5' massive lime-mud, contains an abundance of crinoid remains and other small fossil fragments. Below this upper lime-mud is 1,0' of buff (same black shale), the basal part of this member is a 1,3' light buff lime-mud, unfossiliferous. The average total thickness is 5,5'.

Olce Shale (Common Excavation) - Gray and green shale. 23,0' thick.

Brannon Creek Lime-mud (Rock Excavation) - A,3' of buff lime-mud lime-mud. Upper 1,5' massive, lower 1,5' very impure with many solution holes.

Below the Brannon Creek lime-mud there is a 42,7' interval that is covered.

West Branch Shale (Common Excavation) - Only the lower 9,4' of this member was found. The upper 1,0' is a plasti gray lime-mud. Below this plasti lime-mud is 4,7' of gray shale, then a 1,4' gray lime-mud. The base of the upper branch shale is 5,1' of gray shale.
Fall City Limestone (Rock Rev.ation) - The upper part of this formation is
2.0' gray to buff, massive to slightly banded limestone, contains bryozoans,
bryozoans, crinoid and graptolite remains. Below this limestone is 1.6' black shale.
The basal part of this formation is a 1.2' gray to buff, fine-grained limestone.
The thickness of this formation is 4.6'.

Honeoye Shale (Common Rev.ation) - The upper 12.0' of this formation is buff
shale with small parts of black shale. Below this is 6.5' gray limestone (A),
3' buff shale (B), 8' gray limestone (H), and 8' gray and buff shale as
the basal part. The total thickness is 27.7'.

Appinwall Limestone (Rock Rev.ation) - Gray to light buff, massive hard
limestone 2.6', the only exposure found.

Directional Dip

The directional dip was obtained by taking elevations on the Cottonwood, New, Burr,
and the Americanus Limestones, in the main. All elevations were reduced to Point A
(New A.).

The elevations when plotted and contoured did not reveal a definite uniform dip,
but a rather irregular dip. However the dip existed in general directions would be
to the northeast.

From Sta. 0-120 the dip was fairly uniform to the northeast. Sta. 120-350, revealed
many irregularities which minor changes in direction of the dip. Irregularities in
the dip are no doubt the result of convergence and divergence which is a reflection
of the Pre-Cambrian granite ridge.

Petroleum

During the period that the field work was done on this project, no opportunity was
presented to observe seepage zones. However, these are several places that might
cause drainage problems, they are: Cottonwood (in Cottonwood Limestones), New Limestone (at base of two foot massive ledge) and in the black shale, Burr Limestones, Americanus Limestones, and the Fall City Limestones.

Reservoir

The most outstanding problem on this project was the correlation of the different
strata. Below the Burr Limestones the limestones were not distinct and it was fur-
ther complicated by many small limestones. In the final correlation use was made
of intervals, keeping in mind the outstanding stratigraphic points. The names applied
to the different formations are points of question, but the names were applied after
serious study and in the best manner possible.

Another point that was very apparent in the field was the convergence and divergence
of the shales. In some localities uniform conditions were totally lacking, limestone
parts entering shales with no persistence.

There is a tendency in this locality for the shales to be very licy, thus hard enough
in places to be classified as Rock Rev.ation.

One exposure of the Honeoye Shale was found, it measured 2.0'.

Only the top of the St. Sau (green sh.) was found, below this is a 62.7' interval in
which the Pine Point Limestones and the West Branch (18.5' at base) Sh. are not
shown, as exposures could not be found.

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