LITTLE FALLS DOLOSTONE (UPPER CAMBRIAN)

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The Little Falls Dolostone (Clarke, 1903, p.16) has an estimated thickness of 200 feet in the Middleville area (Kay, 1953, p. 37). The unit nonconformably overlies greenish syenite gneiss of Precambrian age.

In this area the Little Falls is largely a thick-bedded, sandy, medium-grained dolostone that weathers to a tan or buff color. Chert nodules and stringers are not uncommon. Some sandstones and conglomerates are found near the base of the unit. Except for the abundant colonial algae Cryptozoon, in cabbage head form, the unit seems to be barren in this area. Because of this apparent barreness, the sequence of dolostones in the Middleville area is tentatively considered as "Little Falls".

Interest in the Little Falls by mineralogists goes back a long time. Eaton (1824, p.73) reports on the well-developed quartz crystals present in this unit. In places there are zones with packets (vugs) of authigenic quartz crystals. The crystals are generally small, short prismatic to almost equant in shape, doubly terminated, and water clear. Occasionally larger crystals (3 to 4 inches or more) are present. These larger crystals are rarely clear and usually are full of inclusions or flawed. Often associated with the quartz is a black lustrous carbonaceous mineral known as anthraxolite with a composition near that of coal but with different physical properties (Dunn and Fisher, 1954). For example, it does not ignite. Locally the quartz crystals have been termed "Little Falls Diamonds", "Herkimer Diamonds", or "Middleville Diamonds". There have been numerous occasions when local inhabitants have brought in these well-formed, clear quartz crystals for examination, refusing to believe they are not real diamonds, and in several cases, not allowing one to remove the specimen from their hand.

Other minerals often found in the Little Falls Dolostone include:

Calcite

Dolomite

Pyrite

Marcasite

Galena

Sphalerite

Chalcopyrite (?)

Hematite

Glauconite (?)

The glauconite (?) was first reported by Cushing (1905, p. 27) and appears as light-green to bluish-green thin coatings and spots and generally is concentrated in zones. The writer is presently examining this material petrographically and awaiting a report on its X-ray analysis.

REFERENCES

Clarke, J.M., 1903, Classification of New York series of geological formations: N.Y. State Museum Handbook 19, 28 p.

Cushing, H.P., 1905, Geology of the vicinity of Little Falls, Herkimer County: N. Y. State Museum Bull. 77, 95 p.

Dunn, J., and Fisher, D. W., 1954, Occurrence, properties, and paragenesis of Anthraxolite in the Mohawk Valley: Am. Jour. Sci., v. 252, p. 489-501.

Eaton, Amos, 1824, A geological and agricultural survey of the district adjoining the Erie Canal: Albany

Fisher, D.W., 1965, Trip A. Mohawk Valley strata and structure, Saratoga to Canajoharie: N. Y. State Geol. Assoc., Ann. Mtg. 37, p.A1-A47.

Kay, Marshall, 1953, Geology of the Utica quadrangle: N.Y. State Museum Bull. 347, 126p.

TRIP 10: LITTLE FALLS DOLOSTONE (UPPER CAMBRIAN), AND HERKIMER DIAMONDS, MIDDLEVILLE, N. Y.

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Total Miles	Miles from last point	Route Description
0	0	Treadway Inn parking lot on New Hartford St., .4 mi north of Utica North-South Arterial (rtes. 5 & 12). Use N.Y. Mills exit. Leave parking lot and turn left (S) onto New Hartford St.
0.4	0.4	North-South Arterial Entrance to rte. 5 (EAST), 8 (NORTH), and 12 (NORTH). Take Arterial
1.7	1.3	Utica College campus seen to left (N)
3.1	1.4	Noyes St. inters. Factories of Utica Cutlery and Duxbak (outdoor clothing and equipment).
4.4	1.3	Mohawk River Valley flood plain
4.9	.5	Mohawk River
5.1	.2	Cross over N.Y.S. Thruway
5.15	.05	Rte. 5, turn right (E) to Albany, bear left
6.2	1.1	Rte. 8 (Coventry Ave) inters. (to Speculator) with 5, turn left (N) onto rte. 8.
7.0	.8	Cosby Manor Rd "T-inters.", turn right (E) onto Cosby Manor Rd.
		For the next few miles as you look to the right (S) across the Mohawk Valley physiographic subprovince you will see the northern-most escarpment face of the Allegheny Plateau.
10.4	3.4	Newport Rd. inters. (Baker Corners), turn left (N) onto Newport.
		Hummocky glacial topography along this road, many erratics.
16.0	5.6	"Y-inters." of Newport Rd with Butler Rd. Bear right and continue on Butler Rd.
17.0	1.0	In middle distance to left (N) is a presumed wave-planed hill top formed when this area (West Canada Creek valley) was a lake during the Pleistocene.
19.2	2.2	Intersection Summit Rd (E-W) with Cook Hill Rd on right (S) and Fishing Rock Rd. on left (N). Turn left (N) onto Fishing Rock Rd. Slope drops down to West Canada Creek
19.7	0.5	STOP 1. Exposure of glacial varves about 10 feet thick seen in the ditch on the right (E) side of the road. There are an average of

about 10 couplets per inch which would therefore suggest that this 10 foot exposure took about 1200 years to accumulate. Other varves, stratigraphically higher, are found across the road.

Continue downhill (N)

20.4 0.7 Cross R.R. tracks

20.7 0.3 Higher, abandoned flood plain of W. Canada Creek. Meander scars seen at base of hills to right (W). Eastern Rock Products Middleville Quarry seen to left (E) across West Canada Creek.

21.2 0.5 Cross R.R. tracks

21.4 0.2 STOP 2 Exposures of Precambrian syenite gneiss. This is considered to be an inlier.

Continue S on Fishing Rock Rd.

21.9 0.5 Inters. with Rte. 28. Middleville turn left (NE) and cross West Canada Creek. (A right turn onto rte. 28S will take you to the Ace of Diamonds, a commercial "diamond" hunting ground, about 0.5 miles from the inters.)

22.0 0.1 Inters. of rte. 29 with 28N at traffic light. Turn left (NE) and continue with rte. 28N.

23.1 1.1 STOP 3 Quarry of Eastern Rock Products Inc., Plant No. 6 Middleville, N.Y. The quarry is on the right (E) side of the road, the operating plant is on the left (W) side of the road.

The company is a subsidiary of Koppers Corp. The quarry operation, which began in the winter of 1964, achieved its top production during 1971. About 350,000 tons of rock were processed during that year. Almost all production goes into light and heavy construction use. Some is used for rip-rap and some for "cement" blocks. Upon special order a "filter-media stone" is produced to be used for filtration in sewerage treatment plants. The largest percentage of business is for state projects. The plant does the crushing and screening as well as special mixtures according to specifications.

Because of company regulations the quarry has not been carefully examined by the writer. However, cursory examination on several occasions has shown the Little Falls dolostone (Upper Cambian) to be barren except for "cabbage-heads" of Cryptozoon found in the talus in the southeastern corner of the quarry. In that same corner the greenish spots and coatings of glauconite (?) have been found. Quartz crystals, pyrite, dolomite, and calcite are relatively common along the northwest face of the quarry. Galena, sphalerite, and chalcopyrite (?) have also been found in this part of the quarry.

Continue N on Rte. 28 (South on 28 takes you to Herkimer and the N.Y. State Thruway).

26.5	3.4	Newport, center of town.
30.6	4.1	Poland, inters. with rte 8. Continue with rte. 28(N), 8 (S)
32.1	1.5	"T-inters." Rte 8 (S) branches off from rte 28 (N), turn left onto rte. 8 (S) to Utica. (Rte. 28 (N) continues on to inters. with rte. 12)
42.5	10.4	Cosby Manor Rd. "T-inters." on left, continue south on rte. 8
43.3	0.8	Cross rte. 5, continue on rte. 8
43.6	0.3	N.Y.S. Thruway entrance, continue on Genesee St.
44.4	0.8	Whitesboro St. inters. after bridge, turn right onto Whitesboro
44.8	0.4	Utica War Memorial Auditorium on left.
45.0	0.2	"T-inters." with Liberty St., bear right
45.1	0.1	Turn right into Arterial entrance, bear right for rtes. 5 (W) and 12 (S); around curve bear left for 5 (W), 12 (N), NOT 5A.
48.6	3.5	N.Y. Mills exit from arterial onto New Hartford St. (N)
48.9	.3	Treadway Inn

END OF TRIP