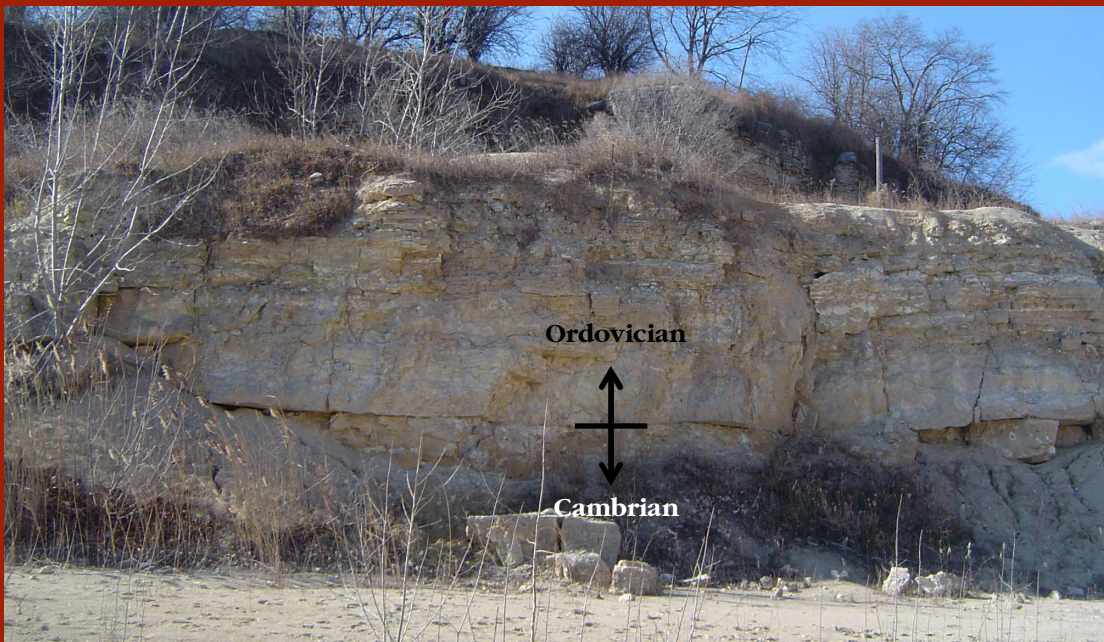


**Stone Ridge Quarry
Rochelle, Illinois
Site: RO-2101**

G-012007-3A

2007

Written By: *Steven D.J. Baumann*



Summary:

Stone Ridge Quarry is an isolated quarry that sits on a bedrock high that is completely surrounded by flat farmland. It is quarried sporadically and not at any great volume. A gravel road leads to the quarry and is the only road in and out.

Stone Ridge Quarry is the only spot in Illinois where the Cambrian-Ordovician contact is extensively well exposed. Unlike in Wisconsin where the Cambrian-Ordovician contact is marked by sandstones grading into the Oneota Dolostone, in Illinois an unconformity separates the two systems, both of which are represented by dolostone.

The unconformity is easy to spot. The Cambrian rocks tend to slightly dip around what appears to be small karst holes filled with chert nodules as much as two feet thick near the top. These "chert masses" appear to be truncated at the top indicating at least a slight period of erosion between the two systems. There are trace large vugs in the Cambrian strata which contain developed calcite or dolomite crystals. The exposed Cambrian rocks all belong to the *Potosi Formation*. No fossils were found in any of the Cambrian rocks.

The Ordovician rocks are also dolostone. They tend to be finer grained, more multi-colored, more even and smoother bedded, and the chert is more lenticular. The Ordovician rocks in the quarry all belong to the *Oneota Formation, Arsenal Member*. The lower 7 feet of the *Arsenal Member* does have a small disconformity at top that may just represent a change in sea turbidity. The lower seven feet tends to be fine grained and have slightly rougher bedding planes, and is not as thickly bedded. The upper facies contains thin gray soft shale laminations as much as 1 inch thick. No fossils were observed in the *Oneota Formation*.

The surrounding surficial deposits were deposited by the Illinoian glaciers. Also present are Wisconsinan Age lake and outwash deposits, which tend to be thin.

A couple of well documented structures either run thru the quarry or are nearby. The quarry is located right on the crest of the Ashton Anticline which dips gently on the north side (by about 1/2°) and runs into the parallel trending Sandwich Fault Zone about a mile north of the quarry.

Other than stone for aggregate, the dolostone isn't very economical. There are no known oil deposits, and quality groundwater tends to be deeper within the Cambrian sands that underlie the Potosi.

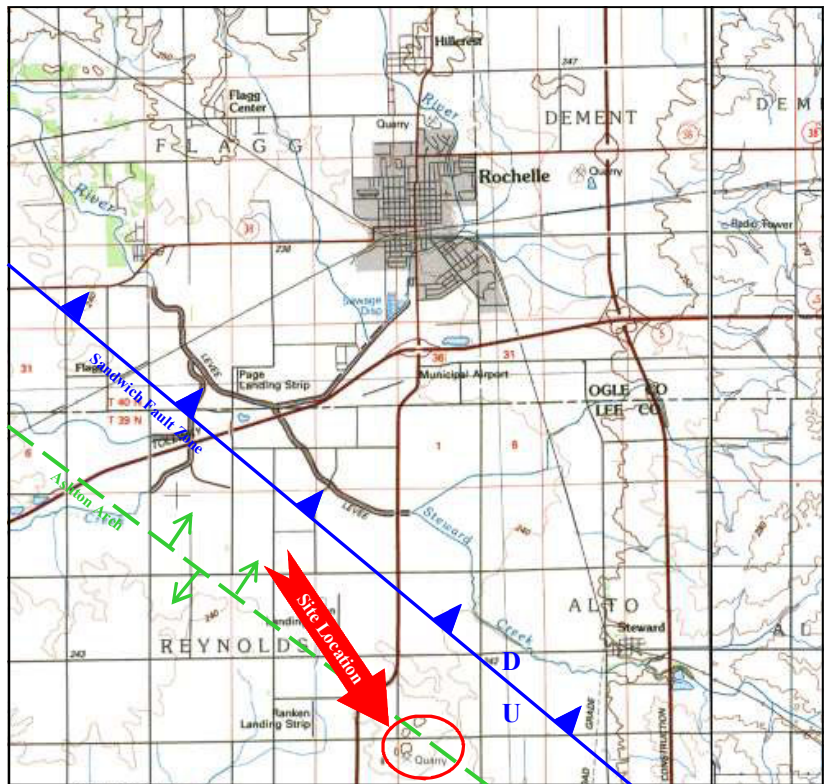
**Stone Ridge Quarry
Rochelle, IL
RO-2101**

SITE LOCATION MAP

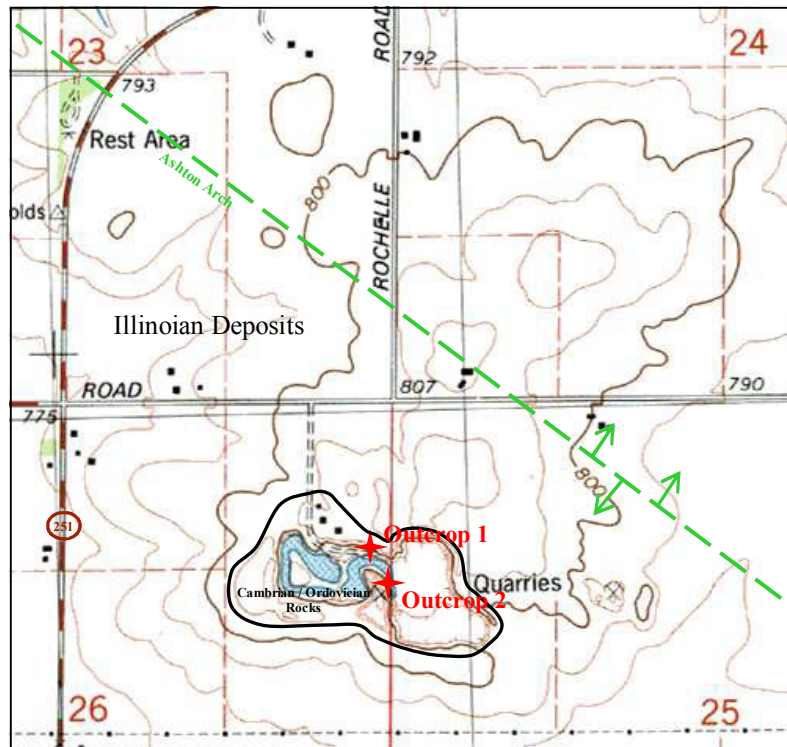
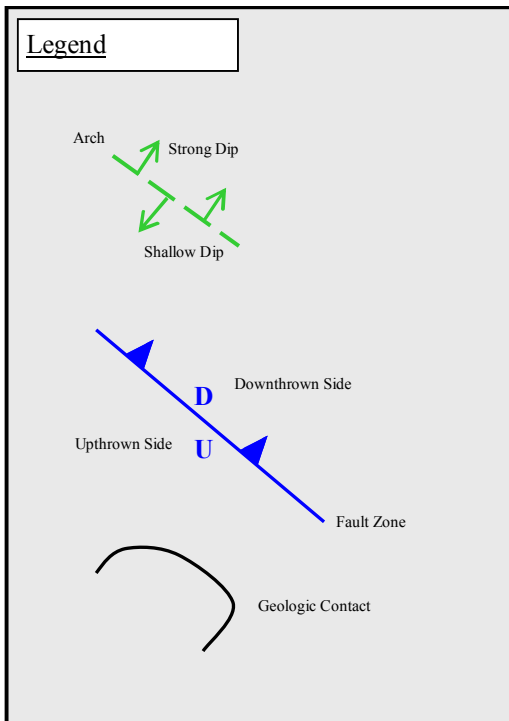
Date Studied: 11/19/2006

Location: Approximately 6 miles south and 0.5 miles east of I-88 along IL SR-251 T39N R01E Sect. 25 and 26

Approximate GPS location at center of Quarry:
41.8286°N by 89.0752°W

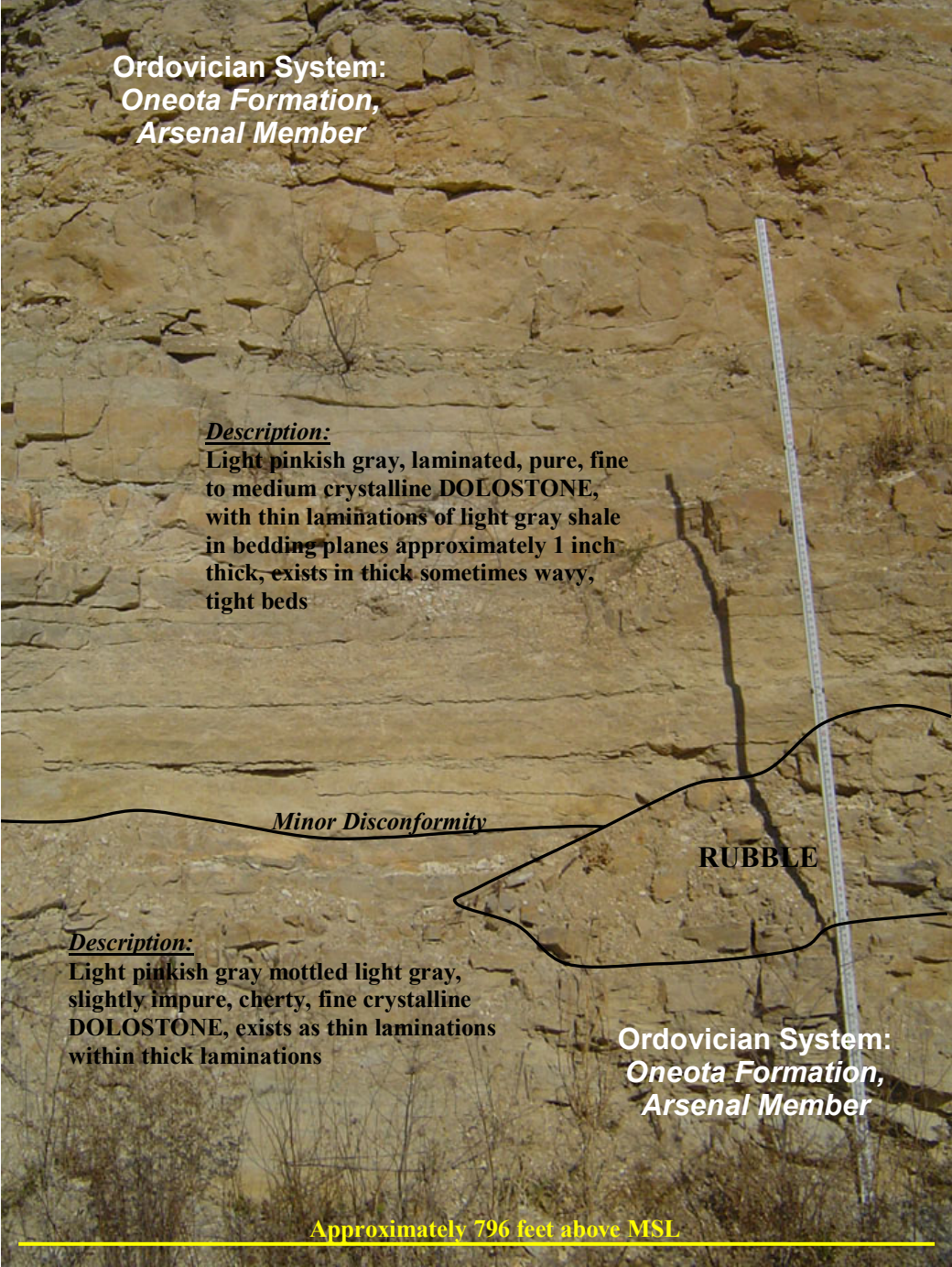


 = 12050 feet

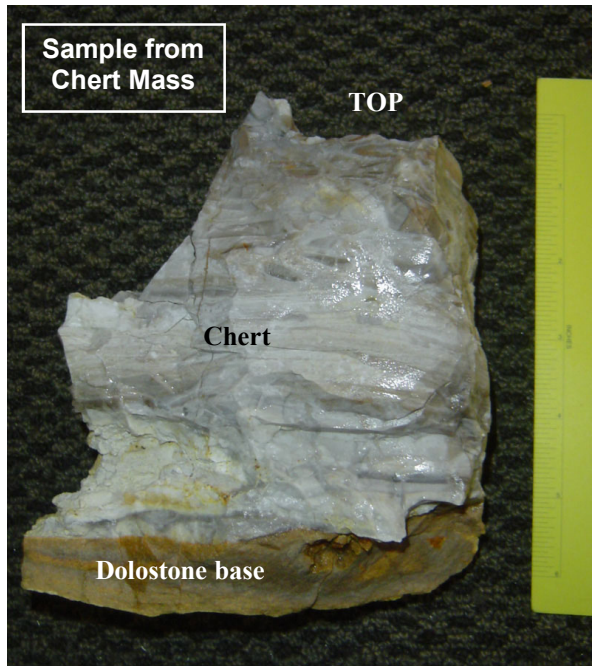
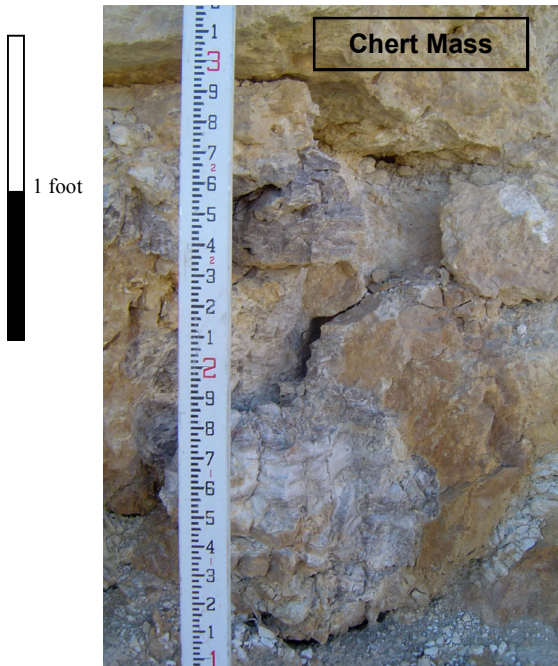
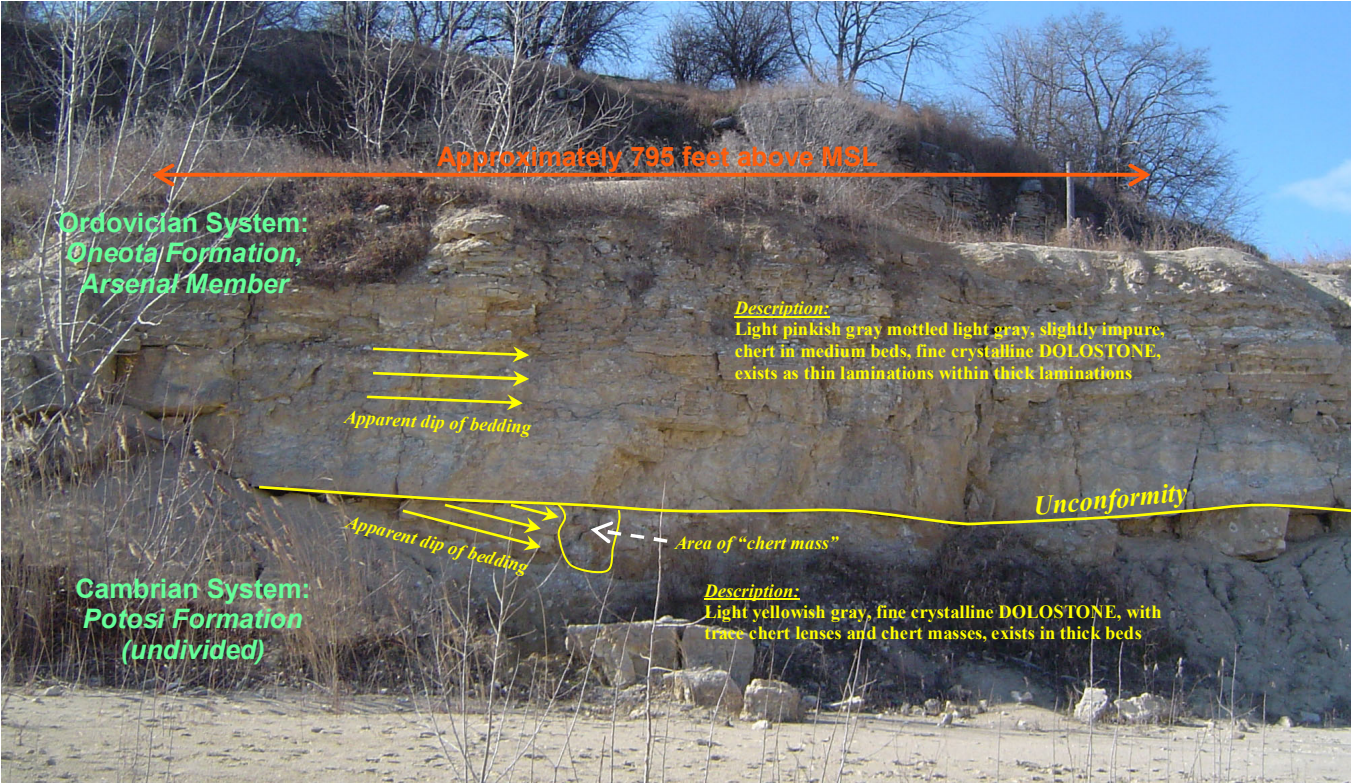


 = 1535 feet

Profile of Outcrop 1 of Site RO-2101



Profile of Outcrop 2 of Site RO-2101



References:

Bulletin 95: Handbook of Illinois Stratigraphy, 1975; Willman and Frye

Bulletin 100: Structural Features in Illinois, 1993; Nelson

Open File Series 2000-7: Surficial Deposits of Illinois (map), 2000; Stiff

Credits:

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