

GEOLOGICAL SOCIETY OF IOWA

Field Trip Guidebook # 25

# Revision of Galena Stratigraphy

May 6, 1972

by

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THE GEOLOGICAL SOCIETY OF IOWA  
1972 SPRING FIELD TRIP  
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The 1972 Spring Field Trip consists of travel within Winneshiek County, Iowa that shows two full sequences of strata from the top of the Ion Formation to the top of the Dubuque Formation. One full sequence will be shown during each the morning and afternoon session. Subdivision of the strata to be observed is based upon that of Templeton & Willman, (1963), as is currently in use within Illinois by the Illinois State Geological Survey. Additionally, slight modification of those stratigraphic units for use within Winneshiek County, will be discussed.

The morning session, consisting of 34.1 miles of travel, will begin and end at the "Cliff House" drive, then break for noon lunch. Those bringing lunch may eat in their cars at the Cliff House parking lot, while those desiring a more substantial meal may enjoy the fine food of the Cliff House Restaurant. This portion of the field trip constitutes 1 full sequence of strata.

Following the lunch break, the afternoon session will commence at 1:00 p.m.. This will involve 49.1 miles of travel to show a second complete sequence of the same strata at different localities.

Please stay in the caravan, for it is very easy to get lost in the winding roads of Winneshiek County. A map is included which shows each locality to be visited. Locality numbers and Stop numbers are not the same. Locality No. 1 will be visited only if time permits. The possibility of the presence of rattlesnakes exists at some localities. Some caution should be exercised.

Hardhats should be worn while in quarries or where the danger of falling rock exists. Drive carefully; There are several turn-arounds within limited quarters. On hard surfaced roads, caravan will attempt to maintain an approx-

imate 50 m.p.h. speed. Due to the large number of stops and distance to be travelled in one day, only limited time will be had at each stop. Have a good time.

MORNING SESSION

Assembly Point: Cliff House parking lot  $\frac{1}{2}$  mile East of Junction of U. S. Highway 52 and Iowa Highway 9.

Time of Assembly: 0830 Caravan leaves at precisely 0835.

Cumulative  
Mileage

- 0.0 Leave Cliff House parking lot drive, turn right on Highway 9.  
 0.5 Note roadcut either side of Hwy. 9. Locality 8-H. This will be a stop later during the morning session.  
 2.1 Note lowest strata on right; This is McGregor limestone.  
 2.9 Stop 1 - Loc. 8, right side of highway.

Dunleith	Rivoli	1'9"
	Mortimer	12'2"
	Fairplay	19'2"
	Eagle Point	14'11"
	Beecher	13'2"
Decorah	Ion	5'9"

Strata here is equivalent to the Minnesota Cummingsville of Weiss, (1955, 1957). Leave cars parked on right shoulder of highway; We will walk to Stop 2.

- 3.0 Stop 2 - Loc. 8-A, left side of highway.

	Strata above too rubbly to detail.
Dunleith	Mortimer 7'7"
	Fairplay 18'5"
	Eagle Point 4'10"

Back to cars, we will move eastward about 0.2 mile.

- 3.1 Stop 3 - Loc. 8-B, right side of highway.

	Strata above too rubbly to detail. 24'8"
Dunleith	Rivoli 20'10"
	Mortimer 13'7"
	Fairplay 19'0"

Lower 8'6" of Fairplay in ditch to the West. Top of Rivoli is within

rubble 2'4" above small ledge, and may be located by digging out a 1/2" to 3/4" tan-buff clay parting. Walk to next stop.

3.2 Stop 4 - Loc. 8-C, left side of highway.

	Strata above too rubbly to detail. 25'0"
Dunleith	Sherwood 21'0" +- Rivoli 20'10" Mortimer 3'3"

Here the contact of the top of the Sherwood is within the rubbly area slightly below the uppermost ledge at the East end of the exposure. To the East on the South side of the highway is strata of Loc. 8-D and 8-E consisting of Sherwood, Wall, and Wyota Members. Time does not permit inclusion in this field trip as other localities better show the characters of the members.

3.3 Turn around on highway by driveway on North side. Follow the leader.

Traffic will be held during turn around.

6.0 Stop 5 - Loc. 8-H, both sides of highway. Park on right shoulder.

Exposure at West end on South side of highway.

	Wall 4'8"
Dunleith	Sherwood 19'6" Rivoli 20'11" Mortimer 5'3"

Exposure on North side of highway.

Wise Lake	Sinsinawa 26'7"
Dunleith	Wyota 21'3" Wall 12'0" Sherwood 12'7"

Note: To the Southwest of this locality is situated a quarry. This is Templeton & Willman, (1963) "South Quarry" locality. It is today poorly exposed with portions inaccessible. Locality 8-H provides the same strata.

At Loc. 8-H we are approximately 3'0" below the top of the Sinsinawa where a noted increase in Receptaculites oweni occurs.

6.8 Jct. Iowa 9 and U.S. 52, Stop sign, Turn right.

- 7.1 Note roadcut on either side of highway. This is T.&W., (1963) locality "Engineers New Cut". Sequence exposed here from base of diversion channel after concrete fill completed:

	Not accessible above. (Time of Sectioning)
	Rivoli 12'8"
	Mortimer 11'0"
Dunleith	Fairplay 19'0"
	Eagle Point 13'6"
	Beecher 6'0"

- 7.5 Note roadcut just north of junction with blacktop road, right side: Has not been sectioned, but contains strata of Mortimer, Rivoli, and Sherwood Members.
- 7.9 Note roadcut either side of highway. Has not been sectioned, but contains strata of Wall, Wyota, and Sinsinawa Members.
- 8.1 Note roadcut on left side of highway. Has not been sectioned, but contains strata from Sinsinawa at top, and as we progress Northward, down into the Rivoli Member.
- 8.9 Jct. U.S. 52 and W-20, Turn right.
- 9.5 Jct. W-20 and "Old" Hwy. 52, Stop, Turn right.
- 10.3 Jct. "Old" Hwy. 52 and W-38, Turn left.
- Note: Along alternate sides of this road is Loc. 7 of Mossler & Hayes, (1966), and Loc. 4 of R. L. Ethington, (1959).
- 11.5 Jct. W-38 and Gravel Road, Turn right.
- 12.3 T - Intersection, Turn right.
- 12.8 Stop 6, Loc. 14, Turn left into Quarry.

Wise Lake	Stewartville	24'4"
	Sinsinawa	30'9"
Dunleith	Wyota	8'0"

Present within quarry are SCB's 1 thru 5 (See attached graphic column). Here a very superb exposure of the Sinsinawa Member showing its full thickness within Winneshiek County, also a SCB near the middle of the Sinsinawa which has been observed in that position in Clayton County. The member here also shows the very typical limonite corrosion surfaces,

which are so common within the Sinsinawa. A very typical Wyota-Sinsinawa contact is also present. At time of preparing this field trip, rock was not down to make the Sinsinawa accessible, however it is hoped that it can be arranged to have a face blasted down so this beautiful strata may be observed closely.

13.0 Exit Quarry, Turn left.

Strata on left side of road progresses down hill to the Ion Formation.

13.9 Jct. with Ice Cave Road, Turn right before bridge.

14.2 "Ice Cave" right side of road. Entrance is in Eagle Point Member.

Strata here from Beecher Member to top of Sherwood Member.

15.1 Jct. Ice Cave Road and "Old" Hwy. 52, Stop, Turn left.

15.6 Follow "Old" Hwy. 52 to 2nd. Stop Light, Turn right.

16.3 Jct. "Old" Hwy. 52 and W-38, Turn left. (Easy to miss -- across road from D-X sign).

16.5 Note: Old Decorah Quarry, "South Quarry" of T. & W., (1963) on right. Badly overgrown, slumped, and otherwise inaccessible.

17.8 Stop 7, Loc. 13, "Hovey Quarry" - Field entrance to quarry, Turn right from W-38, drive back into quarry.

Wise Lake	Stewartville 48'1"
	Sinsinawa 22'7"

Contact of Sinsinawa-Stewartville is 14" above SCB No. 1. Note water tube in west and north faces of quarry at contact. Within quarry, SCB's No. 1, 3, 5, 6, 7, and 8 are present, with 7 and 8 indistinct at top of exposure above quarry. Approximately 2'0" of strata is missing from having a complete face of the Stewartville Member. Crinoid Horizon No. 1 is at floor level of quarry.

18.2 Exit Quarry, Jct. with W-38, Turn right.

19.3 Jct. W-38 and Gravel road, Turn left.

20.2 Y in road, bear left.

21.4 Stop sign, Turn left.



- 21.9 Y in road, bear right.
- 23.4 Stop sign, cross blacktop.
- 24.5 Stop sign, turn left.
- 24.6 Stop sign, turn right onto Hwy. No. 9. Follow Hwy. No. 9.
- 26.4 Stop No. 8, Loc. 9.

Dubuque	Not subdivided 19'8"
Wise Lake	Stewartville 18'4"

Roadcut exposure on either side of Hwy. No. 9. This is a locality where Kay, (1935) placed the Stewartville-Dubuque contact 4 beds below the wide shale parting. Templeton & Willman, (1963), if followed, their contact would be equivalent to the 4" shale parting near the base of exposure. Kay had but 15' of Dubuque, while T.&W. would here have 33'. Although time does not permit going to the top of the exposure, the contact of the Dubuque with the Maquoketa is present. This is the entire Dubuque as is present within Winneshiek County. Note SCB's No. 7 and 8 in the face of the exposure.

- 26.4 Turn-around on Highway No. 9. Traffic will be stopped during turn-around. Follow Hwy. 9 to next stop.
- 30.5 Stop No. 9, Loc. 8-G.

This exposure is just East of where we first observed strata this morning. Here we have 9'9" of Stewartville at the face of the exposure overlain by an unmeasured thickness of soil, drift and rubble. This strata is approximately 8 feet above the base of the Stewartville Member. The purpose of this stop is to show the two SCB's (No. 2 and 3). One of them disappears at the West end of the exposure to be replaced by a corrosion surface. Follow Hwy. No. 9.

- 34.1 Cliff House drive, turn left, park in parking lot. Break for noon lunch. Vehicles will assemble at 1300 for afternoon session. Afternoon field trip will leave at precisely 1305.

AFTERNOON SESSION

Assembly Time: 1300

Leaving Time: 1305

Cumulative  
Mileage

- 0.0 Cliff House Drive, Turn right onto Hwy. No. 9.  
 0.2 Jct. Hwy. No. 9 with "Old" Hwy. 52, Turn left.  
 1.3 Stop light, Turn left. Follow "Old" Hwy. 52, park along road at Stop 10.  
 4.1 Stop 10 - Loc. 16

Dunleith	Wall	3'2"
	Sherwood	21'3"
	Rivoli	18'0"
	Mortimer	12'9"
	Fairplay	20'2"
	Eagle Point	14'10"
	Beecher	15'4"
Decorah	Ion Formation	3'2"

Drainage ditch below quarry provides strata to the top of the Eagle Point. Possibility of snakes in drainage ditch. The top of the Sherwood and Wall represented here are above the face of the quarry. Time will not permit climbing to the top. Crinoid Horizon 2 at top. If dampness prevails within the rocks, the Rivoli and Sherwood bentonites should be clearly visible. The Rivoli bentonite is the most prominent at 44 feet above the quarry floor (Designated in graphic column as "K"). Sherwood bentonite about 13 feet above the Rivoli bentonite. Note the approximate 7 feet above the Rivoli bentonite--This is the upper 7 feet of the Rivoli which shows a marked lithologic difference from the remainder of the member as well as differs from the overlying Sherwood. Proceed North on "Old" Hwy. 52.

- 4.6 Jct. "Old" Hwy. 52 with Hwy. U.S. 52, Stop sign, Turn right.  
 13.7 Follow Hwy. 52 to Burr Oak. About 11 miles, continue through the town.  
 14.9 Jct. Hwy. 52 with Gravel road to left, Turn left. Watch carefully for cars coming around curve and over the hill. A dangerous corner. Each driver of caravan allow time for clear visibility; Do not follow too closely.

15.5 Stop 11 - Loc. 2. Quarry on right, Turn into quarry.

Wise Lake	Sinsinawa	8'0"
Dunleith	Wyota	17'11"
	Wall	12'4"
	Sherwood	3'9"

At this locality, the chert at the top of the Wyota is unlike that within the Decorah area. Here, Chert Sequence No. 4 is widely spaced rather than in the cluster of bands within a thickness of 26" to 47". Note the contrast in bedding of Wall and Wyota Members in the Northeast face of quarry. Crinoid Horizon No. 2 is 3'9" above floor of quarry. Note Ischadites iowensis in quarry floor.

15.7 Exit Quarry, Turn left.

16.3 Jct. Gravel road with Hwy No. 52, Stop sign, Turn right. Be carefull again on this corner. Follow Hwy. 52.

17.5 Jct. Hwy. No. 52 with blacktop street, Turn right. (At corner of General Store).

17.8 Stop 12 - Loc. 4. Quarry on right.

Wise Lake	Stewartville	5'0"
	Sinsinawa	30'0"
Dunleith	Wyota	7'8"

Here a full sequence of the Sinsinawa Member is shown as common to the Northern area of Winneshiek County. It is typically like that in the Decorah area. Note wide spacing of Chert Sequence No. 4 at the top of Wyota. Crinoid Horizon No. 1 is 12'0" +- above floor of the quarry.

18.0 Exit quarry, Turn right. Follow gravel road.

21.3 Notice abandoned quarry on right---Stewartville strata.

25.3 Continue on gravel road to Jct. of gravel road and Iowa Hwy. 139. Stop sign, Turn left.

27.5 Stop 13 - Loc. 17. Quarry North of bridge at Kendallville, Ia. Turn left into quarry.

Dubuque	Not subdivided	19'3"
Wise Lake	Stewartville	44'5"

Sparry Calcarenite bands present within the quarry are No. 5 and 6, with

one which rests stratigraphically between No. 6 and 7. One has been observed at this position in Clayton County. No. 7 and 8 have not been observed within this quarry. Time permitting, the lower Dubuque bentonite will be examined.

This completes the second sequence of Kimmswick and Dubuque strata.

If time permits, one more exposure will be examined on the way back to Decorah. Those anxious to leave may follow Hwy. 139 south to Jct. with Hwy. 9, which will take them to Decorah on hard surfaced roads. The one remaining stop in the Bluffton area will show strata of the Wyota-Sinsinawa contact, and a full Sinsinawa Member.

27.7 Exit quarry, Turn right on Hwy. 139.

29.1 Jct. Hwy. 139 and W-14, Turn right.

29.7 Note Dubuque-Maquoketa contact in road cut, left side of road.

30.3 Jct. W-14 and Gravel road, Turn left.

To the left may be observed the typical strata of the Galena forming bluffs along the beautiful Upper Iowa River from Kendallville to Decorah. The Bluffton area is particularly beautiful. Follow the gravel road you are on, which is marked with curve signs.

32.9 Coldwater Cave area on the left. Continue on gravel road.

34.6 T-Junction in road, Stop sign, Turn right.

35.8 Stop 14 - Loc. 1. Quarry on right side of road. Park in quarry where space available.

Wise Lake	Sinsinawa 25'9"
Dunleith	Wyota 7'8"

The purpose of this stop is to show the fine example of the Wyota-Sinsinawa contact of the Bluffton area. It here is shown as the several chert bands at the top of the Wyota within a thickness of 47". Here, Crinoid Horizon No. 1 is about 13'7" above the floor of the quarry.

35.8 Turn around, Stop sign, Turn right.

- 36.4 Notice bluffs along Upper Iowa River on right side. This is Galena strata just to the North of Bluffton, Iowa.
- 37.6 Jct. Gravel road and W-20, Stop sign, Cross bridge and continue on blacktop.
- 38.0 Notice roadcut exposure which shows a more argillaceous strata than in the Decorah area of rock from the Eagle Point to the Wall Member. Continue on W-20.
- 44.4 Jct. W-20 with A-34, Stop sign, Turn left. Follow W-20.
- 46.7 Jct. W-20 with Hwy. No. 52, Stop sign, Turn right.
- 48.8 Jct. Hwy. No. 52 and Hwy. No. 9, Stop sign, Turn left.
- 49.1 Cliff House parking lot on right.

This completes the 1972 Iowa Geological Society Field Trip. Thank you for your participation. Your field trip leaders are very anxious to obtain information and learn more about the Iowa Ordovician. They would appreciate having their names placed upon your mailing lists. A study of the Ordovician Crinoids of Iowa is forthcoming by Harrell L. Strimple and C. O. Levorson. Any information relating to Iowa Ordovician crinoids collected will also be appreciated.

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Wimeshiek County, Iowa

LOCALITY MAP

