

6. Basal part of the Pillsbury Shale down, into the upper part of the Willard Shale T: 11S R: 14E S: 32  
Latitude: 39.050865 Longitude: -95.881253 Elevation (GL): 977.0 Depth: 34.0

| Depth | Stratigraphic Units  |                    |            |        |           |     | Lithology  |             | Sedimentary Structures | Fossils | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------|----------------------|--------------------|------------|--------|-----------|-----|------------|-------------|------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | Members              | Formations         | Subgroup   | Series | Subsystem | Era | Rock Color | Rock Column |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0     |                      | Pillsbury Shale    |            |        |           |     |            |             |                        |         | Claystone weathers light olive gray abundant irregular light-gray argillaceous limestone nodules less than 0.04 ft thick and 0.07 ft long, upper contact not exposed   2.0                                                                                                                                                                                                                                                                      |
| 2     | Maple Hill Limestone | Zeandale Limestone |            |        |           |     |            |             |                        |         | Limestone medium-gray to medium-dark-gray very finely crystalline argillaceous in lower 0.13 ft weathers moderate yellowish brown weathered deep into rock upper surface irregular much mottled by iron stain forms single bed very thin bedded in basal part abundant small fusulinids crinoid stems bryozoans and brachiopods   2.0                                                                                                           |
| 4     | Wamego Shale         |                    |            |        |           |     |            |             |                        |         | Claystone olive-gray to medium-gray platy many moderate yellowish-brown laminated to platy ferruginous siltstone beds less than 0.02 ft thick Lingula and pectinoid pelecypods   6.2                                                                                                                                                                                                                                                            |
| 6     |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 8     |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 10    |                      |                    | Richardson |        |           |     |            |             |                        |         | Claystone very calcareous moderately hard weathers Claystone olive-gray silty limestone brownish-gray very fine grained very argillaceous Claystone olive-gray silty fossiliferous light-olive-gray micaceous siltstone laminar moderate-yellowish-brown argillaceous fossiliferous limestone nodules and lenses   1.8                                                                                                                          |
| 12    |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 14    | Tarkio Limestone     |                    |            |        |           |     |            |             |                        |         | Limestone light-olive-gray very fine grained weathers pale yellowish brown weathers to small rubble fragments in upper 0.4 ft forms ledge in lower 1 ft lower contact sharp abundant foraminifers (including some fusulinids) and Osagia fragments of brachiopods pelecypods and gastropods   1.5                                                                                                                                               |
| 16    |                      |                    |            |        |           |     |            |             |                        |         | Limestone very fine grained single bed weathers to moderate-yellowish-brown irregular elongate blocks many large vugs in upper 0.4 ft light-red barite in some vugs abundant large fusulinds and crinoid stems   5.9                                                                                                                                                                                                                            |
| 18    |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 20    |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 22    |                      | Willard Shale      |            |        |           |     |            |             |                        |         | Siltstone olive-gray clayey to very finely sandy micaceous weathers light olive gray mottled with moderate yellowish brown and grayish red   1.3                                                                                                                                                                                                                                                                                                |
| 24    |                      |                    |            |        |           |     |            |             |                        |         | Sandstone light-olive-gray very fine grained silty platy micaceous weathers light yellowish gray upper contact Siltstone claystone and sandstone interbedded siltstone very finely sandy claystone silty sandstone silty and very fine grained Entire unit is olive gray laminated to platy and micaceous and weathers light olive gray except for a few siltstone beds that weather moderate yellowish brown   2.8                             |
| 26    |                      |                    |            |        |           |     |            |             |                        |         | Sandstone light-olive-gray very fine grained silty laminated to platy very micaceous weathers light yellowish gray to pale yellowish brown lower contact gradational   1.3                                                                                                                                                                                                                                                                      |
| 28    |                      |                    | Nemaha     |        |           |     |            |             |                        |         | Siltstone and sandstone interbedded siltstone light-olive-gray and clayey sandstone very fine grained Sandstone light-olive-gray very fine grained silty laminated to platy very micaceous weathers light Claystone medium-gray silty weathers light olive gray many moderate-yellowish-brown ferruginous micaceous siltstone beds less than 0.04 ft thick that weather to hard chips upper contact gradational basal contact not exposed   6.0 |
| 30    |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 32    |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 34    |                      |                    |            |        |           |     |            |             |                        |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

Primary Rock Lithology

Clay, Claystone

Silt, Siltstone

Sand, Sandstone

Limestone

Secondary Rock Lithology

Clayey, Argillaceous, clay

Silty, Silt

Sandy, sand

fossiliferous

Calcareous

Fossils

Fresh Water

Brackish Water

Marine

Few

Many

Broken

Macrofossils

Brachiopods

Bryozoans

Crinoids

Gastropods

Pelecypods

Algae

Larger Foraminifera, or fusulin

Sedimentary Structure Symbols

Depositional Structures

Bedding Base

Abrupt or sharp, planar base of bed

Lamination

Parallel Laminations

Stratification

Horizontal bedding

Deformational Structures

Nodules - Carbonates