

THIRD DAY

ROAD LOG, SATURDAY, SEPTEMBER 21, 1963

Mileage - 86.0

Buses will load at southeast entrance (Washington Street) of Hotel Alexander for departure at 8:30 a.m.

Mileage

- 0.0 Hotel Alexander; proceed on Washington Street (one-way street) for one block.
- 0.1 0.1 TURN LEFT on Locust Street and proceed one block.
- 0.2 0.1 TURN LEFT on Franklin Street (US 40) and proceed straight ahead.
- 0.8 0.6 Railroad underpass. Approximate contact of Lower Ordovician Stonehenge limestone with Upper Cambrian Conococheague Formation.
- 1.6 0.8 US 40 (west) joins Interstate 81; CONTINUE ON EXPRESSWAY; in Lower Ordovician Stonehenge limestone.
- 2.7 1.1 Poor exposures of the Rockdale Run Formation on the Beekmantown Group.
- 4.0 1.3 End of Expressway. Straight ahead is a Conococheague synclinal valley. Continue on US 40 (west)
- 4.4 0.4 Fault contact of Rockdale Run formation with Stonehenge limestone.
- 4.5 0.1 Rockdale Run is exposed.
- 5.0 0.6 Contact of Rockdale Run with Pinesburg Station Formation (of the Beekmantown Group).
- 5.1 0.1 Intersection of US 40 with Md. 63 at Huyett; in Pinesburg Station dolomite.
- 5.2 0.1 Middle Ordovician St. Paul limestone Group in fields at 3 o'clock.
- 5.3 0.1 Fault contact; we go from Middle Ordovician St. Paul in eastern "up" block to Martinsburg shale of western "down" block. Route continues in Martinsburg shale for next 3.4 miles across the Massanutten Syncline.

Mileage

- 5.5 0.2 Martinsburg shale in road cuts on both sides. The meanders of the Conococheague Creek are wholly contained in this belt of Martinsburg shale. As a result of the difference between the mechanical erosion of the Martinsburg and the solution rate of the bounding limestone, at no place does the Conococheague Creek transgress the contact.
- 6.5 1.1 Bear Pond Mountains at 1 o'clock.
- 7.9 1.4 Bridge over Conococheague Creek. Chambersburg limestone exposures can be seen at west end of the bridge.
- 7.9 0.0 TURN LEFT 500 feet west of bridge.
- 8.1 0.2 Quarry in the Middle Ordovician St. Paul limestone at 3 o'clock (Wilson Quarry).
- 8.6 0.4 At Y intersection BEAR RIGHT; we are in Chambersburg limestone.
- 8.7 0.1 Crossing Meadow Brook at contact of Chambersburg limestone with St. Paul Group. Route continues in the St. Paul Group, paralleling strike.
- 9.3 0.6 Approximate contact of Middle Ordovician St. Paul Group with Chambersburg limestone. Route continues in Chambersburg limestone with excellent exposures in field at 3 o'clock.
- 10.0 0.7 T intersection. TURN LEFT.
- 10.1 0.1 Martinsburg shale crops at 3 o'clock.
- 10.3 0.2 Entering settlement of Pinesburg; TURN RIGHT. Route continues in the Chambersburg limestone.
- 11.4 1.1 Entering Pinesburg Station, Western Maryland Railroad. TURN RIGHT, park in yard of Fry Coal and Stone Company's Pinesburg Station quarry.

STOP XV Group Leader: Dick Frost, Shell Oil Company

Exposures of the Beekmantown Group and the St. Paul group will be seen along the Chesapeake and Ohio Canal between Pinesburg Station quarry and Millers Bend. Neuman (1951) described the St. Paul Group section exposed in the quarry. A detailed description of the excellent Beekmantown section to the south and west of the quarry has been published by Sando (1957). We will proceed on foot to Millers Bend, where buses will pick us up. (See Wagner's paper's Fig. 2, page 6)

The Beekmantown in this area is about 4000 feet thick (Sando, 1957). It is about 70% limestone, being regionally intermediate in the eastward change from dolomite in the Nittany Valley to limestone along the east side of the Great Valley. It has been broken down by Sando into three formations, the Pinesburg Station dolomite at the top (400 feet), the Rockdale Run interbedded limestone and dolomite (2500 feet), and the Stonehenge limestone at the base (1000 feet).

We will start at the Fry Coal and Stone Company's quarry, where the Middle Ordovician Row Park, New Market, and Trenton limestones are exposed, and walk westward through the upper 3000 feet of the Beekmantown, continuously exposed along the canal. In this exposure the upper 1000 feet is extremely fine to sublithographic dolomitized mud, with interbeds of lithified lime mud. The 400 foot dolomite unit at the top is the Pinesburg Station Formation, the Rockdale Run contact being picked at the occurrence of the uppermost limestone interbed. The middle 2000 feet is mainly lithified lime mud with interbeds of extremely fine to sublithographic dolomite. The lower 1000 feet (Stonehenge) is lithified lime mud, the contact with the Rockdale Run Formation being picked at the lowermost dolomite interbed, which occurs near the dirt road across the canal at the west end of the exposure.

The section is rather monotonous except for the limestone-dolomite interbedding. Shallowwater to intertidal depositional conditions are indicated by occasional intraformational conglomerates, stromatolitic layers, burrowing, pelletal layers, and oolitic fossiliferous conglomerate. Stromatolites, intraformational conglomerates, and oolitic fossiliferous conglomerate layers are more common in the Stonehenge.

The following log is for "buses only". Buses will retrace route to Pinesburg.

Mileage

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|------|-----|---|
| 12.6 | 1.2 | Entering Pinesburg; <u>TURN LEFT</u> on Md. 68. Route crossing same section seen at STOP XV. |
| 12.9 | 0.3 | Intersection at right, in Chambersburg limestone. Route continues through Chambersburg limestone and the St. Paul Group. |
| 13.1 | 0.2 | Approximate contact of Lower Ordovician Pinesburg Station dolomite (of Beekmantown Group) with St. Paul limestone. |
| 13.2 | 0.1 | Approximate contact of Rockdale Run limestone and dolomite with the Pinesburg Station dolomite (both of the Beekmantown Group). |
| 14.0 | 0.8 | "Y" junction with Md. 56. <u>BEAR LEFT</u> . In Stonehenge (limestone) Formation of Beekmantown Group. |
| 14.3 | 0.3 | Approximate contact of Upper Cambrian Conococheague Formation with Stonehenge. |

Mileage

- 14.6 0.3 Junction with Charlton Road; TURN LEFT.
- 14.8 0.2 Entering Charlton, in Stonehenge limestone once again.
- 15.2 0.4 TURN LEFT on dirt road. End of log for "buses only".
- * * * * *
- 15.8 0.6 People will rejoin (and get back on) buses near Millers Bend (at abandoned railroad bed) and return to Charlton Road.
- 16.5 0.7 Intersection with Charlton Road; TURN RIGHT.
- 16.8 0.3 Railroad Crossing at Charlton; in the Stonehenge limestone.
- 17.0 1.2 Junction with Md. 56; TURN LEFT . In the Upper Cambrian Conococheague Formation.
- 17.4 0.4 Narrow arch bridge over Little Conococheague Creek. BE CAREFUL. In Conococheague Formation.
- 19.0 1.6 TURN LEFT on dirt road and proceed to railroad crossing.
- 19.2 0.2 At Western Maryland railroad crossing.

STOP XVI Group Leader: Dick Frost, Shell Oil Company.

The Conococheague is the limestone equivalent of the Gatesburg, and is about 2300 feet thick in this area (Sando, 1957). It is mostly limestone here, and intermediate in the eastward change from dolomite in the Nittany Valley to limestone on the east side of the Great Valley.

The lower third is well exposed here on the east flank of an anticline. It consists of the following interbedded lithologies: sublithographic to extremely fine-grained lithified mud, extremely fine-grained dolomite (dolomitized "lime mud"), sparry oolitic limestone, and a few layers of shale and quartz sandstone. The amount of oolite and sandstone is much less than in the Nittany Valley. The amount of dolomite decreases upward, and the upper two thirds of the formation is mainly "lime mud."

A shallow water to intertidal environment is indicated by the presence of common stromatolites, abundant flat-pebble conglomerates, cross-bedding in the sandstones, fossiliferous layers, and occasional mus cracks.

Proceed over railroad tracks and turn around at farmhouse.
Return to paved road.

Mileage

- 19.6 0.4 TURN LEFT onto Md. 56. Route continues in the Conococheague Formation and then crosses a fault ("down" to the west) into the Beekmantown rocks.
- 20.0 0.4 Junction. TURN RIGHT and proceed to village of Clear Spring on US 40. Route crosses a normal contact of Beekmantown with Conococheague.
- 21.7 1.7 Entering Clear Spring, Maryland; still in Conococheague Formation.
- 21.9 0.2 Junction with US 40. TURN LEFT and proceed west on US 40.
- (The following road log, from Clear Spring to Hancock, is from the 1958 Pennsylvania Field Conference Guide Book prepared by Cloos and Pettijohn.)
- 22.8 0.9 Elbrook limestone in old quarry in hill north of highway (3 o'clock).
- 23.0 0.2 Crossing fault which throws Elbrook and Conococheague against Oriskany sandstone and Romney shale. The fault dies out northward and becomes more prominent southward; it also determines the western edge of the Great Valley in this section. A second, northeast-trending, strike fault separates Elbrook limestone from Martinsburg shale.
- 24.3 1.3 Summit of Fairview Mountain. Good view of Massanutten Mountain to the south.
- 24.6 1.3 Silurian Keefer sandstone is exposed in road cuts at 3 o'clock. Crossing south-plunging anticlinal nose.
- 26.2 1.6 Indian Springs; Stores and intersection with a road to the north.
- 28.6 2.4 Road cuts in Helderberg limestone. Fossils weather out and can be gathered in quantity.
- 28.8 0.2 Bridge across Licking Creek.
- 30.1 1.3 Upper Devonian Parkhead Sandstone (type locality) is exposed here. Excellent exposures of mostly Upper Devonian rocks along road for next 1.1 miles. Road parallels strike of formations most of the way. Jennings Formation (Upper Devonian), with many fossiliferous beds, is exposed along most of the route.
- 30.9 0.8 Scenic overlook at 9 o'clock.

Four routes of travel can be seen
from this point: Potomac River,

Chesapeake and Ohio Canal, Baltimore and Ohio Railroad, and the "National Pike"; all played vital roles during the Civil War.

General W. W. Averell (U.S.A.) with 2800 cavalymen passed this point in pursuit of McCausland (C.S.A.) after the raid and burning of Chambersburg. McCausland was caught and defeated near Moorefield with all plunder taken from Pennsylvania recaptured.

Mileage

- 34.4 3.5 Intersection of US 40 with Md. 615. Continue straight ahead on Expressway US 40.
- 35.1 0.7 Devonian Catskill beds with excellent cross-bedding at 3 o'clock.
- 36.6 1.1 City limits of Hancock, Maryland.
- 37.3 0.7 Hancock Post Office at 9 o'clock.
- 37.5 0.2 Junction. TURN RIGHT and follow directions to US 522.
- 37.7 0.2 Junction US 522. TURN RIGHT and proceed on US 522 (north).
- 38.2 0.5 Southeastward-dipping Helderberg limestone crops out here on the southeast flank of Cacapon Mountain Anticline. Parallel ridge 1/8 th. mile to east of highway represents Oriskany sandstone outcrop.
- 39.6 1.4 Mason-Dixon line. Exposures for next five miles represent Keyser and Wills Creek formations of Silurian age on north plunge of Cacapon Mountain Anticline. The southward extension of this anticlinal feature exposes the Tuscarora sandstone of Silurian age west of Berkeley Springs.
- 40.2 0.6 Enter limited-access Interstate Route 70.
- 41.6 One-fourth mile to east of highway may be seen H. B. Millot limestone quarry in Keyser Formation.
- 42.3 2.1 McConnellsburg Exit - Village of Warfordsburg on left.
- 42.5 0.2 Crossing axis of Cacapon Anticline.
- 43.2 0.7 Large road cut on left side of road exposes Northwestward dipping Helderberg, Shriver Chert, and Oriskany sandstone of Early Devonian age. Immediately to the east of road, outcrop continues through Onondaga limestone, Marcellus shales, and Hamilton

Mileage

- shales of Middle Devonian age.
- 44.3 1.1 Road cuts expose contorted Chemung beds which evidence faulting on this flank.
- 46.2 1.9 Red shale and siltstone interbeds marking transitional character of Catskill - Chemung contact. Dip is northwestward. Red rocks of Catskill Formation exposed for next mile.
- 47.4 1.2 Deneen Gap Interchange marking approximate axis of Sideling Hill Syncline whose youngest rocks are of the Pocono Group of Mississippian age. Continue through gap, the rocks for next 5.7 miles represent those of Catskill Formation exposed over the Paw Paw Anticline. Several distinct Anticlinal trends are displayed in the attitudes between the framework of the Pocono on the east and the west. Approximately forty miles southwest near Romney, West Virginia, Oriskany gas production has been found on this structure at the Whip Cove Gas Field (or Augusta Pool).
- 53.1 5.7 Pocono-Catskill contact dipping northwestward on Town Hill. Base of Pocono Group contains much red coloration.
- 55.3 2.2 Summit of Town Hill; Northwestward-dipping resistant Pocono.
- 57.8 2.5 Mauch Chunk-Pocono contact; Dip is northwestward into Town Hill Syncline whose youngest exposures are of the Mauch Chunk.
- 59.9 2.1 Southeastward-dipping Mauch Chunk sandstones and shales on northwest flank of Town Hill Syncline.
- 60.2 0.3 Large road cut in gap of Rays Hill exposes southeastward-dipping Pocono Group; Contact of Mauch Chunk and Pocono is at this point.
- 61.2 1.0 Approximate contact of Pocono-Catskill on west flank of an unnamed anticlinal complex. Eight miles southwest of this point, Oriskany production has been established on a local anticline; the pool is known as the Purcell Pool. The oldest exposures over the gas pool are of Chemung "age." Continuing northward from this mileage point, all exposures are of the Catskill Formation. Local folding accounts for apparent erratic attitudes.
- 64.7 3.5 Intersection Interstate Rt. 30 and 126 - TURN RIGHT on Rt. 30 into Village of Breezewood.
- 65.1 0.4 TURN RIGHT at entrance to Turnpike.
Breezewood Toll Booth - Pennsylvania Turnpike.
- 65.3 0.2 Joining Pennsylvania Turnpike heading toward Pittsburgh and the west.

(Road log from Breezewood to Bedford is, with minor revision,

from Guidebook to the Geology of the Pennsylvania Turnpike,
Cleaves and Stephenson, Pa. Geological Survey, 1949)

- 66.8 1.5 Catskill Formation; red sandstone and shale.
- 68.7 0.9 Catskill Formation; sandstone and red shale.
- 70.7 2.0 Catskill Formation, at bridge over the Turnpike, near the axis of a minor syncline.
- 71.2 0.5 Catskill Formation is exposed in all cuts from Rays Hill westward to Clear Ridge. Considerable folding is evident in many cuts, hence numerous minor synclines and anticlines can be mapped in this area.
- 71.7 0.5 Clear Ridge Cut. This was the deepest highway cut in eastern United States when it was made in the late 1930's, being 153 feet deep and 2475 feet long. Benches collect rock falls from higher parts of the walls to protect traffic. The strata strike across the Turnpike at this place, and there has been no trouble with slides.
- In the Clear Ridge Cut the strike is N 32 E, and the dip 53 SE. The cut continuously exposes 1,800 to 1,900 feet of Upper Devonian Chemung shale and sandstone with some Catskill shaly red sandstone at the east end. The Chemung beds at the Allegheny Front are about 2,000 feet thick, with purplish shales in the higher portion; they are marine and contain the Cyrtospirifer disjunctus fauna with Dalmanella tioga in the lower quarter. At Clear Ridge cut, the purplish tongues of the higher Chemung become more prominent, red, and Catskill-like and give witness to the eastward change taking place in the Chemung as it transforms into the red continental (Catskill) facies; to the east, this change (in correlative strata) from the gray-brown and brachiopod-rich Chemung to red continental Catskill is completed and denotes the proximity to the old land region from which these sands and clays were worn by Late Devonian river systems. From the hill-top there is a fine view of the regional structure.
- 72.8 1.1 Chemung is exposed in a cut 25 to 30 feet deep; green shales and interbedded chocolate-red sandstone and shale; Pterinea chemungensis present.
- 72.9 0.1 Fort Littleton Formation shales - soft, olive-drab shales, barren - can be seen here. Tully and Harrell beds are concealed in the valley to the west. In this cut the strata are folded into a syncline, the east limb dipping 47 W and its west limb dipping 44 E. There is an overhead bridge in the middle of the cut.
- 73.4 0.5 Hamilton Group. In a 40-foot-deep cut, brownish weathering gray sandstones, thin-bedded except for the massive unit near the center of the cut, are overlain by Hamilton shales in the eastern end of

Mileage

the cut. Locally, these beds are very fossiliferous (large "Spirifer's", Chonetes, and Tropidoleptus). (Turn once again to Route Map 1).

- 73.7 0.3 Lower Devonian strata are exposed here in a deep cut in Warrior Ridge. The sequence of the strata in this cut, from east to west, is:
- Needmore (Onondaga) black, fissile shale
 - 114' Ridgeley sandstone, fossiliferous
 - 76' Shriver chert, weathered, fragmentary. No fossils found.
 - 15' Keyser limestone, crystalline, very fossiliferous limestone.
- Across the Juniata River, from the town of Everett north, continuous exposures of Oriskany occur. It was extensively quarried at Tatesville, 3 miles north of Everett, by the Pittsburgh Silica Sand Company.
- 74.0 0.3 Everett Maintenance Building and shops for the Pennsylvania Turnpike. Site of Everett-Saxton iron works. Note slag piles to the north. Everett was a former "iron town."
- 74.3 0.3 Rose Hill (Clinton) is covered but under the houses on the south side (9 o'clock) of the road there exists a filled shaft used in colonial days for mining the "Clinton" iron ore.
- 74.6 0.3 Aliquippa Gap in Tussey Mountain (the nose of which at this point is called Mt. Dallas). In this gap a sequence of strata is exposed from the Tuscarora quartzite at the east through the Bald Eagle (Oswego) on the west - same as in the Bedford Narrows, but with the sequence reversed. The strata strike N22E and the dip varies from 44 to 64 SE. Some faulting and shearing is apparent. The Tuscarora white quartz sandstone and quartzite (ganister) contain Arthropycus (worm trails). The Bald Eagle, a rusty speckled sandstone, is strongly shattered and faulted. Near the west end of the cut, the contact between the sandy Upper Martinsburg and the Bald Eagle may be seen. All contacts can be observed although are not always clear.
- 76.2 1.6 New Enterprise limestone plant (north) and quarry (south) of the Turnpike. Quarry is in Chazyan-Black River (Middle Ordovician) limestone.
- 76.3 0.1 Lower Ordovician Beekmantown dolomites, largely whitish and of Bellefonte type. The Axemann limestone, which separates the Bellefonte dolomite above from Nittany dolomite below in the State College region, tends to disappear southward, making distinction of the two dolomites difficult.
- 77.5 1.2 Fields south of the Turnpike yield chert fragments with much sil-

Mileage

iceous oolite of the type characteristic of the Mines dolomite (which is 250 feet thick and found at top of Gatesburg formation). The contact between the Mines and Gatesburg occurs about at the woods line at the west edge of the field.

77.6 0.1 Additional cuts expose Gatesburg sandy dolomite.

78.1 0.5 Beds below the middle of the Upper Cambrian Gatesburg sandy dolomite are exposed in a cut on the south side of the highway. The Gatesburg is about 1,600 feet thick; it contains interlayers of sandy dolomite and quartz sandstone, the sand forming about 10 per cent of the mass; it weathers to a loose sandy-soil mantle of considerable thickness.

The middle part of the Gatesburg contains the 50- to 100-foot Ore Hill characterized by trilobites of the same sort as those found near Chambersburg below the middle of the Conococheague limestone. The sandy Gatesburg of central Pennsylvania grades southeastward into the Conococheague limestone, giving evidence that the Gatesburg sands were transported to central Pennsylvania from the north and northwest.

78.5 0.4 Scattered crops of Upper Cambrian Warrior Formation dip about 30 SE. Cryptozoan heads provide evidence that these beds are not overturned. The Warrior strata at first appear to overlie the Bellefonte (Beekmantown) of the last cut to the west (- their trilobites show that they are early Upper Cambrian in age) but they belong about 4,000 feet below the Beekmantown and have been carried to their present position by the Friend's Cove Overthrust. The thrust plane forms a rather low angle to the bedding, and, if so, the actual slip may have been of the order of several miles. This fault was first identified by James Wilson.

78.7 0.2 Long cut in light-weathering Bellefonte dolomite of Lower Ordovician Beekmantown Group. The beds dip about 45 SE and lie in the southeastern limb of the anticlinal fold.

79.0 0.3 Juniata River Crossing. The contact of the Reedsville with the Upper Ordovician limestones was observed in the core borings for the foundations of this bridge, but is no longer exposed. The Cambro-Ordovician limestone does not reappear again to the west until brought to the surface on the Cincinnati Arch, hundreds of miles west of here.

79.2 0.2 Bedford Narrows where Raystown Branch of the Juniata River cuts through Evitts Mountain. (See Mileage point 32.7 on log for First Day)

The section exposed is as follows (in descending order) according to measurements of F. M. Swartz assisted by Doris Bye:

MileageBedford Narrows SectionLower Silurian:

Tuscarora Sandstone: thick-bedded, resistant, white silica-cemented quartz sandstone or quartzite, making main ridge of Evitts Mountain. Used as ganister rock for silica brick in central Pennsylvania, the Tuscarora extends westward and northwestward into the gas-producing Medina sand ("Clinton" Sand of Ohio), and is represented in part (?) by the Whirlpool Sandstone in Niagara Gorge. Total thickness +400 feet; exposed in west end of cut 165 feet

Upper Ordovician:

Juniata Red Beds: Upper reddish quartzitic member: dark red quartzitic sandstone, with thin partings of red silty shale increasing below 60 feet

Red siltstone member: red siltstone or mudstone and interbedded red sandstone 610 feet

Lower Sandstone Member: thick-bedded, red, medium-grained sandstone and some interbedded red mudstone; some minor interbeds of greenish sandstone in lower part . 380 feet

(The Juniata correlates with the Queenston of the Rochester and Niagara gorges.)

Total thickness Juniata red beds 1,050 feet

Bald Eagle Sandstone: (intertonguing with Juniata facies)

"Ridge-making" member: thick-bedded, cross-bedded, greenish and much interbedded reddish sandstone (graywacke), with a few thin partings of gray or reddish shale; shale chips are common; a few 1/4 to 1/2-inch pebbles of milky quartz occur in three thin lenses. These beds make subsidiary ridge of the mountain 215 feet

Lower shaly member: interbedded greenish and reddish sandstone (graywacke) and greenish and reddish silty mudstone that forms about a third of mass 320 feet

Total thickness of Bald Eagle Sandstone 535 feet

Reedsville Shale:

Upper sandy member containing Orthorhyncula stevensoni fauna; carbonate-bearing greenish siltstone and some interbedded sandstone 47 feet

Mileage

- Bald Eagle red and green shaly sandstone duplicated by faulting at east end of cut; about 60 feet. (See comments at mileage point 32.7 of First Day).
- 79.7 0.5 Viaduct over Dunning Creek at its junction with the Juniata River. Foundations for this structure are placed on Rose Hill (Clinton) strata which are no longer exposed.
- 80.4 0.7 Oriskany (Ridgeley sandstone); yellowish-brown sandstone and chert; Platyceras and Spirifer arenosus common. This is the east limb of a shallow syncline; dips are to the west.
- 80.6 0.2 Needmore shale (Onondaga); weathered black shale.
- 80.9 0.3 "Midway" Service Stations and restaurants.
- 81.2 0.3 Oriskany (Ridgeley sandstone); yellowish-brown, weathered into a loose sand; occasional fossils. This is the west limb of a shallow syncline.
- 81.6 0.4 A bridge over the Turnpike. Oriskany, decomposed, is exposed.
- 81.7 0.1 Keyser limestone: massive, and in part cherty limestone; prominent Stromatoporoid bed. Cherty beds rest on top of the Keyser, but no Coeymans or New Scotland fossils have been reported.
- 82.0 0.3 Tonoloway limestone is exposed to the north in 60-foot cut.
- 82.6 0.6 Underpass for US Route 220 to Bedford.
- Bedford Springs, two miles south of Bedford, has been famous for many years as a health resort. Medicinal value of these springs was discovered about 1796 and it soon became a leading resort. President James Buchanan used the Springs as his summer White House.
- 82.8 0.2 Bedford interchange. The strata on the west side are Wills Creek, consisting of greenish-yellow shale interbedded with dove-gray calcareous shale. Some cherty limestone occurs near the top of the 40-foot cut. Near the ticket booth is a blue limestone replete with veins of calcite, quartz veins and vugs; some ostracoda are present. Strike N 11° W, dip 12° NE.

(End of log extracted from "Guidebook to the Geology of the Pennsylvania Turnpike")

Mileage

- 83.1 0.3 Bedford Toll Booth, Pennsylvania Turnpike. Proceed to US 220.
- 83.2 0.1 Junction US 220. TURN RIGHT and continue south towards Bedford.
- 85.4 2.2 Bridge over Raystown Branch, Juniata River. Continue straight ahead. Keyser limestone and Uppermost Tonoloway are exposed in bluff at 9 o'clock on north side of bridge.
- 85.6 0.2 At second signal, TURN LEFT and proceed one block.
- 85.7 0.1 TURN LEFT and proceed one block.
- 85.8 0.1 TURN LEFT onto Pitt Street.
- 86.0 0.2 Entrance of New Hoffman Hotel.

END OF LOG

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