

ITINERARY OF FIELD TRIP FOR FIFTH NATIONAL CLAY CONFERENCE, OCTOBER 8, 1956

By

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ABSTRACT

A road log of a 37-mile field trip is presented. The route passed over a group of Early Tazewell moraines and the till plains in between. Stops were made at Flanagan, Drummer and Elliot soil profiles and the type Fithian illite locality. The soil profiles and Fithian cyclothem are described.

The route of the field trip passed over a group of Early Tazewell moraines and the till plains in between. Stops were made at Flanagan, Drummer and Elliott soil profiles and the type Fithian illite locality.

Miles

- 0.0 Depart Illini Union Building at 1:30 p.m. Proceed east on Green Street.
- 1.2 Turn north (left) on Vine Street.
- 1.6 Turn east (right) and proceed on U.S. 150.
- 2.6 Crossing a group of Early Tazewell moraines. Proceed on U.S. 150 across Tazewell till plain.
- 10.2 Village of St. Joseph; proceed on U.S. 150.
- 15.0 Village of Ogden; proceed on U.S. 150.
- 18.1 Turn south (right) on county highway.
- 20.2 *Stop 1.* Profile of Flanagan silt loam along highway.

The Flanagan silt loam (Wascher, Fehrenbacher, Odell, and Veale, 1950) is a moderately well drained Prairie soil developed from medium textured Peorian loess or loess and outwash material ranging in thickness from 35 to 60 inches over permeable calcareous Wisconsin till.

Horizon	Depth, inches	
A ₁₋₁	0-7	Very dark brown (10YR 2/2 moist) friable silt loam with moderately developed medium granular to crumb structure. Medium to slightly acid. 6 to 8 inches thick.
A ₁₋₂	7-15	Very dark grayish-brown (10YR 3/2 moist) friable heavy silt loam with moderately developed medium granular structure. Medium to slightly acid. 7 to 9 inches thick.
B ₁	15-20	Brown (10YR 4/3 moist) light silty clay loam which in places shows weak low-contrast mottles. Weakly developed fine nuciform to blocky structure. Slightly acid. 4 to 6 inches thick.
B ₂	20-28	Yellowish-brown (10YR 5/4 moist) heavy silty clay loam mottled with

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- brownish yellow, strong brown and gray. Slightly acid to neutral. 7 to 9 inches thick.
- B₃ 28-36 Yellowish-brown, silty clay loam, mottled with brownish yellow and light olive gray. Becomes more friable with depth. Neutral. 6 to 10 inches thick.
- C 36+ Leached friable loess, resting on calcareous loess on permeable calcareous drift of loam texture at 58 inches.

Miles

- 20.3 Turn east (left) on county highway.
- 21.4 Turn south (right) on county highway.
- 23.2 Stop 2. Pennsylvanian cyclothem showing underclay containing illite.

The outcrop is located in NW¼ section 31, T. 19N., R. 13W., Vermilion County, along the east cut bank of Salt Fork River south of a concrete bridge about 2 miles south of the village of Fithian. Wilson (1944) has also designated this location as the type locality for the cyclothem which he named Fithian. The Fithian cyclothem is in the upper part of the McLeansboro group of the Pennsylvanian Period.

The cyclothem has the following lithologic units:

<p>Thickness</p> <p>2 ft. exposed</p> <p>6 to 15 ft.</p> <p>0 to 2 ft.</p> <p>6 in. to 2 ft.</p> <p>1 ft.</p> <p>2 to 4 in.</p> <p>1 ft.</p> <p>3½ to 4 ft.</p> <p>3½ ft. exposed</p>	<p>9. Yellow gray sandstone</p> <p>Fithian cyclothem</p> <p>8. Shale, gray, fossiliferous</p> <p>7. Limestone, gray, fossiliferous</p> <p>6. Shale, gray-black, fossiliferous</p> <p>5. Coal</p> <p>4. Underclay, dark gray, noncalcareous</p> <p>3. Underclay, gray ironstained, noncalcareous</p> <p>2. Underclay, gray, calcareous, limestone nodules and sandy near base</p> <p>1. Sandstone, gray, micaceous</p>
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The lower part of the lithologic unit no. 3 (Grim, Bray, and Bradley, 1937) yields the purest illite. According to Yoder (1955) lithologic unit no. 4 contains mixed-layer 1Md, montmorillonite, and 2M mica (illite).

Miles

- 28.3 Retrace route over county roads to U.S. 150 at junction of Ill. 49. Proceed north on Ill. 49.
- 33.5 Stop 3. Profile of Drummer silty clay loam along highway.

The Drummer clay loam (Wascher, Fehrenbacher, Odell, and Veale, 1950) includes Wiesenbodens of the Prairie soil zone developed on water-worked glacial sediments of the uplands, or mixed loess, till, and glacial sediments of the outwash plains under poor or very poor drainage conditions.

<p>Horizon</p> <p>A₁₋₁</p> <p>A₁₋₂</p> <p>B₂</p>	<p>Depth, inches</p> <p>0-10</p> <p>10-17</p> <p>17-27</p>	<p>Black (10YR 2/1 moist) silty clay loam to clay loam with well developed medium granular structure. Neutral to slightly acid. 8 to 20 inches thick.</p> <p>Very dark gray (10YR 3/1 moist) clay loam or silty clay loam. Well developed medium granular structure. Neutral to slightly acid. 6 to 8 inches thick.</p> <p>Dark gray (5Y 4/1 moist) to gray (10YR 5/1 moist) clay loam or silty clay loam with some sand and grit; some mottling of brownish yellow and splotches of very dark gray where organic matter has come down from above. Moderately developed medium blocky structure. Neutral to slightly alkaline. 8 to 15 inches thick.</p>
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- C 27+ Gray (10YR 5/1 to 6/1 moist) heavy loam to clay loam with brownish yellow mottles resting on silty, sandy, or gravelly material at 40 to 50 inches. Neutral to calcareous.

Miles

33.5 Proceed north on Ill. 49.

36.6 *Stop 4.* Profile of Elliot silty clay loam along highway developed on the Bloomington moraine.

The Elliot silt loam (Wascher, Fehrenbacher, Odell, and Veale, 1950) includes Prairie soils developed in drift or thin loess underlain by compact, medium plastic, Wisconsin till, with clay content of calcareous till ranging from 25 to 35 percent. When figured on carbonate-free basis clay ranges from 30 to 43 percent.

Horizon	Depth, inches	
A ₁₋₁	0-8	Very dark brown (10YR 2/2 moist) friable heavy silt loam with moderately developed medium crumb to granular structure. Moderately acid. 0 to 10 inches thick.
A ₁₋₂	8-16	Very dark grayish brown (10YR 3/2 moist) to dark brown (10YR 4/2 moist) friable light silty clay loam or heavy silt loam. Moderately developed medium granular to crumb structure. Moderately acid. 6 to 12 inches thick.
B ₂	16-30	Brown (10YR 4/3 to 5/3 moist) heavy silty clay loam or clay loam; weakly developed medium subangular blocky structure; aggregates weakly mottled with grayish brown and yellowish brown. Maximum clay in subsoil ranges between 38 and 46 percent. Moderately to slightly acid. 8 to 12 inches thick.
C	30+	Light brownish gray (10YR 6/2 moist) silty clay loam that is compact and plastic when moist and hard when dry; mottled with yellowish red and gray. Calcareous. The <2 micron clay content of the calcareous till is 32.2 percent.

Return to Urbana.

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