

3.

BARTHOLOMEW COUNTY

- A. A summary of sand and gravel deposits
- B. Memorandum Report: Driftwood Gravel Company
- C. Geologic Map
- D. Drift Thickness RP7
- E. Memorandum Report: Spray Gravel
- F. Memorandum Report: Columbus Gravel

MEMORANDUM REPORT BY DALLAS FIANDT, JR.

SAND AND GRAVEL DEPOSITS OF BARTHOLOMEW COUNTY

Date of field examination.--July 20, 21, 22, 1949

Sources of information.--The road materials of Bartholomew County were described in an old report (Ellis, 1906, pp. 823-838) which mentioned many earlier pits and deposits and was of some assistance in determining the general area of gravel occurrence.

U. S. Geological Survey topographic quadrangle maps cover the northern and western parts of the county.

A recently issued soil map (Ulrich, et al, 1947) was of great aid in determining areas underlain by sand and gravel.

Geology.--Illinoian glaciation covered all but a narrow strip along the southwestern edge of Bartholomew County. The Wisconsin ice sheet extended down over the northeastern half of the county. The Shelbyville Morainic System and the terminal moraine of the ^{Champaign} Glacial Substage lie diagonally across the county in a northwest-southeast direction. (See Malott, 1922, Pl. 3.)

Flatrock Creek and Driftwood River converge just west of Columbus to form the east fork of the White River. All of these streams run in a north-south direction through the middle of the county in broad shallow valleys, which were once deep glacial sluiceways, but are now nearly filled with assorted water-laid glacial materials.

Fox, Westland, and Homer soils overlie low terraces, usually underlain by gravel, in the old sluiceways, which have a total width of approximately 7 miles in the northern part of the county and 3 miles in the southern part. Alluvial soils, principally Genessee and Eel, are present in the lower areas between the terraces,

and are also often underlain by sand and gravel. The sluiceway area furnishes the county with large reserves of sand and gravel. Most of the material in Bartholomew County, however, tends to have a high sand ratio and yields a poor supply of the larger sizes when washed and sized.

The absence of Bellefontaine soil in this county is unusual. This soil type is found in abundance to the north in Johnson County, and its presence would be expected in Bartholomew County, as the northern and eastern parts of the county lie within the Shelbyville Morainic System. No evidence, however, of moraines can be found on the soil map. Soil types derived from kames, eskers, and outwash are lacking.

The valley of Clifty Creek acted as a minor sluiceway and contains gravel terraces, which appear to be of little value upstream from Newbern, but have been the sites of several sizable pits, now abandoned, between Newbern and the major sluiceway.

Two operations were visited at which gravel coarser than the Pleistocene sluiceway gravel was being taken directly from a present stream channel. The valley train material has been undercut by meanders and reworked by stream action, leaving bars of relatively coarse material and carrying the fines downstream. Deposits of this type are being worked in Flatrock Creek and White River. We were informed that these bars are built so rapidly that a small operation rarely needs to be moved.

Sources of materials.--Three active and two inactive pits were found at the time of examination. Thirty abandoned pits were visited. All active and inactive pits are located in the major north-south sluiceways. One pit in the north-central part of the county is producing washed and sized material. Several plants producing washed material in the vicinity of Seymour furnish sand and gravel to the southern

part of Bartholomew County.

Creek gravels derived from Borden rocks are being used by the county in the vicinity of Waymansville.

Crushed stone from a large quarry near Elizabethtown provides much of the coarse aggregate and road metal used in the county.

Respectfully submitted,



Dallas Fiandt Jr.
Geologic Field Assistant

Ellis, R. W. (1906) The roads and road materials of southeastern Indiana, Indiana Dept. of Geology and Nat. Resources, 30th Annual Report, pp. 757-871.

Malott, C. A. (1922) The physiography of Indiana in Handbook of Indiana Geology, Ind. Dept. of Conservation, Pub. No. 21, pp. 57-256.

Ulrich, H. R., et al (1947) Soil survey of Bartholomew County, Indiana, U. S. Dept. of Agriculture, Series 1936, No. 27, 105 pp, map.

MEMORANDUM REPORT BY ROBERT E. SARGENT

DRIFTWOOD GRAVEL COMPANY, BARTHOLOMEW COUNTY

Date of field examination - June 28, 1950.

Location - The Driftwood Gravel Company pit is located two miles south of Edinburg, Indiana, in the S.E. $\frac{1}{4}$, S.E. $\frac{1}{4}$, sec. 9, T. 10N., R. 5E.. The operation is on the west side of U. S. highway 31.

Ownership - The plant is managed by Martin Fishback and owned by Messrs E. and T. Burnside. The company has 92 acres of land in fee.

Information for this report was furnished by Martin Fishback, plant manager, and by the file card compiled by John B. Patton June 20, 1949.

Geology - The pit is in valley train material in the Driftwood sluiceway. The operation has been tested to depths of 30, 50, and 70 feet. In the upper 30 feet there is 20 percent gravel, in the next 20 feet there is 25 percent, and the percent increases to 30 in the lowest 20 feet tested. Only 3.3 feet of gravel was above water level at the time of investigation. This material was well stratified and well sorted, composed of generally subrounded material. The material above water level is finer than that encountered below water level.

The overburden, where the operation has cut back from the river, ranges from $1\frac{1}{2}$ feet to 5 feet in thickness. It is a dark brown silty loam, which contains some gravel at the base. This overburden is the Genesee silt loam primarily, although Eel silty clay loam and Martinsville silt loam may have been encountered (See Ulrich et. al., 1947, Soil Map).

Samples - Since only 3.3 feet of sand and gravel were above water level at the time of investigation, sample S5010 was taken from an unwashed and unsorted pit run stockpile. This gravel was taken from the channel of the Driftwood River by cableway bucket. It should be quite representative of the valley train material.

Operations - The original operation was in the channel of the Driftwood River. The pit has been moved back into the river bank, widening the channel of the river. Gravel is removed with a cableway bucket and a portable dragline crane. Stripping is also done with the dragline crane. The plant has a gasoline powered washing plant. All transportation is by truck.

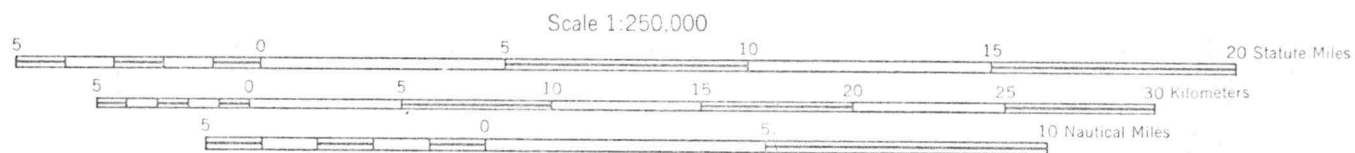
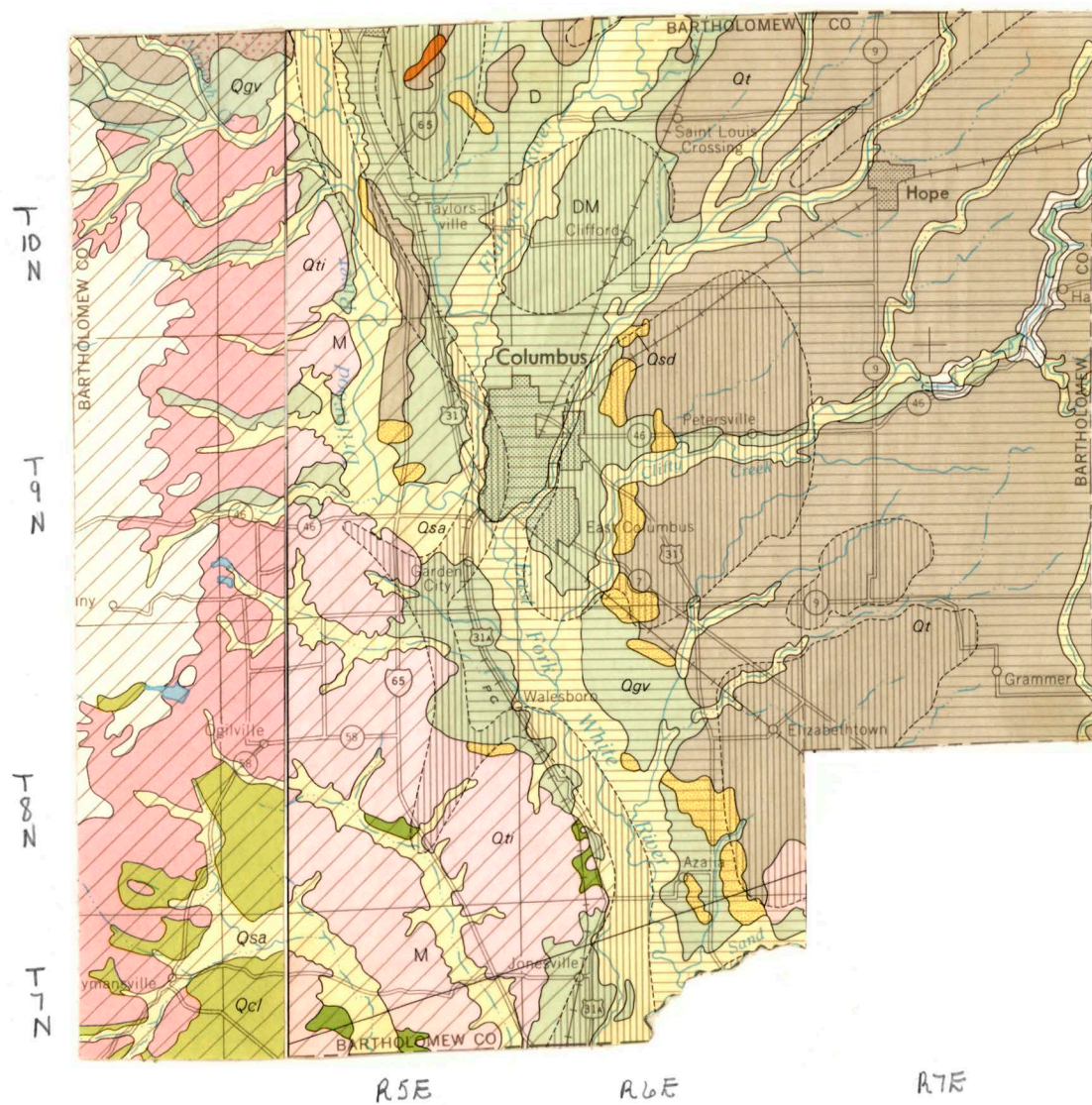
Production - The plant produces pit run gravel and graded gravel up to L #5. In 1949 approximately 90 yards of gravel were produced an hour, and the plant was operating on a 14 hour day. In 1950 the plant was producing 200 tons per hour on a 9½ hour day. No figures on annual production are available. The plant is in operation approximately 8 months a year.

Reserves - The Driftwood Gravel Company holds 92 acres of land, of which 5 acres have been worked. It is estimated that 40 more acres will be worked. Under this land gravel has been found to a depth of 70 feet.

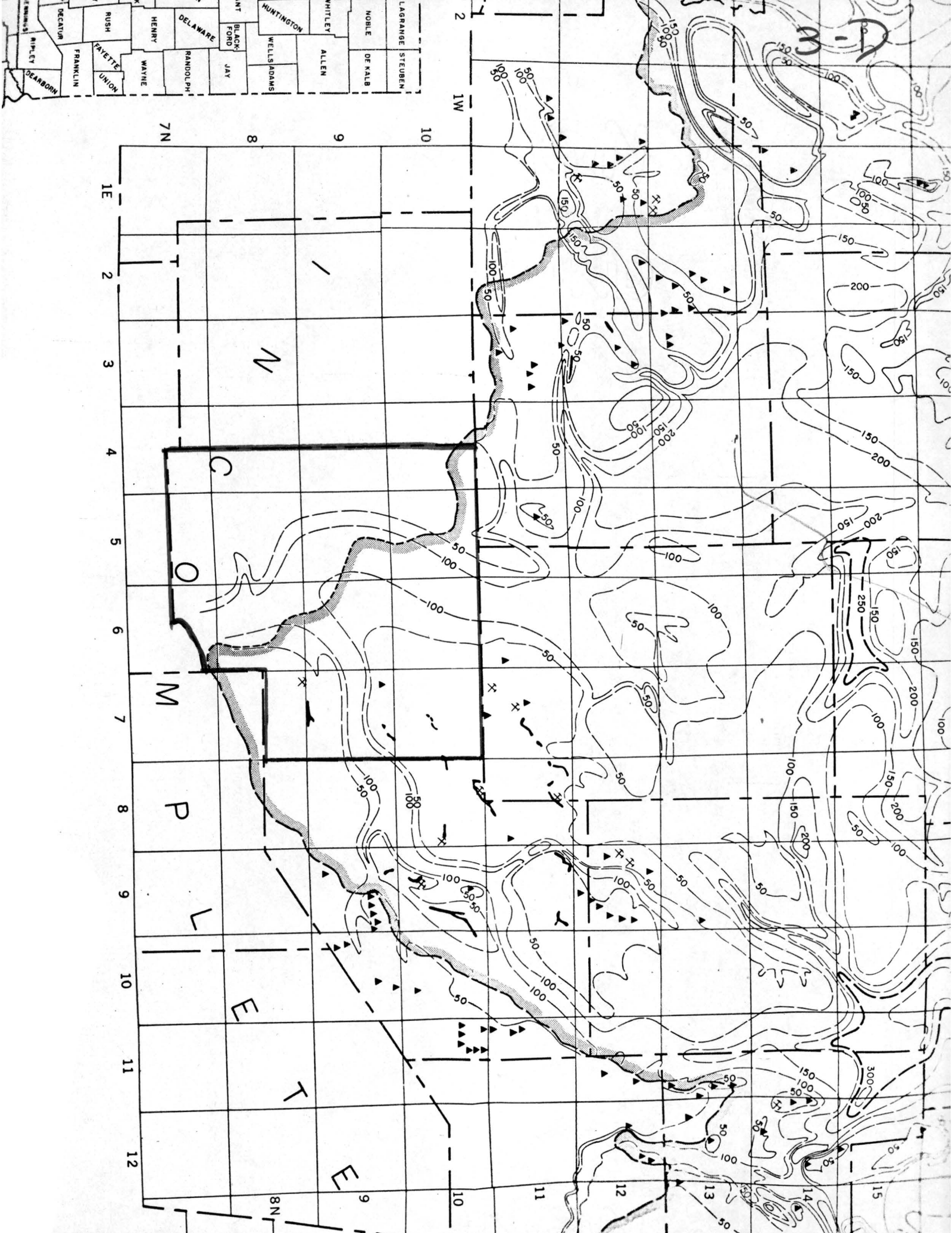
Respectfully submitted,

Robert E. Sargent

Robert E. Sargent
Party Chief



LAGRANGE STEUBEN
NOBLE DE KALB
WHITLEY ALLEN
HUNTINGTON WELLS ADAMS
ANT BLACK FORD JAY
DELAWARE RANDOLPH
HENRY WAYNE
RUSH FAYETTE UNION
DECATUR FRANKLIN
DEARBORN



Memorandum Report
by
Michael C. Moore
April 4, 1975

County: Bartholomew
Company: Spray Sand and Gravel Inc.
Mailing Address: 610 E. Redding Rd., Seymour, Indiana 47247
Phone: 812-372-7508
Date of Field Visit: April 2, 1975
Informant: Bill Finley, foreman
Descriptive Location of Pit: S. from Jct. U.S. 31A and S.R. 46W on 31A for
4 blocks, then E. 600 ft.
Congressional Location: SW $\frac{1}{4}$ sec. 25, T. 9 N., R. 5 E., Columbus 7 $\frac{1}{2}$ ' quad
No. Of Employees: 7
Products:

Price per ton at time
of visit

mortar sand	\$ 1.30
coarse sand	1.20
fill sand	1.00
pit run	1.50
P gravel	2.00
county gravel	2.00
big gravel (over 5-L)	1.70
concrete gravel	2.00
5-L gravel, single wash	2.20
5-L, double wash	2.40
top dirt	.80
fill dirt	.60
minimum pick-up	4.00

Shipping: The company owns some trucks but most gravel is hauled by independent operators who charge \$.60/ton for the first mile and \$.05/ton/mile thereafter. The market area has a radius of about 30 mi.

This pit has been open since 1964, and gravel has been dredged from 15 acres of the terrace and flood-plain of the East Fork White River. The dredge was built by the Spray company and has several unique features. It is powered by three electric motors and has a gasoline driven generator on board. The material is broken free by water jets and then pumped through a 6 inch grate to an 8 inch pipe and to the plant on shore. The dredge has worked as deep as 72 feet, but is presently set up to go only 60 feet. It works back and forth over the deposit along a cable anchored with deadmen on both sides of the pit.

Stripping of the 18 inches to 8 feet of soil overburden is accomplished with a crane mounted dragline. A few feet of gravel above water is also excavated by the dragline. A sample of this material was taken from a stock-pile (MM75-13) and is not representative of the majority of the material mined, but is probably nearer the pit-run composition than is that gravel brought up by the dredge. The sand to gravel ratio was estimated by Mr. Finley to range from 50/50 to 75/25. No crushing is done.

The coarseness and thickness of the deposit varies from place to place on the 100 acre property and the scale operator noted that at the places where gravel is near the surface the beans turn brown in the fall. A clay seam is encountered at 45 to 60 feet and at shallower depths to the east. Mr. Finley reports that dredging at the Imperial House Motel $\frac{1}{2}$ mile to the north was hampered by clay unexpectedly encountered at a depth of 8 feet. Although the dredge has worked at greater depths it is uncertain whether there is gravel below the clay or whether the gravel from above slumps into the hole. The lower part of the deposit contains much Borden shale.

Memorandum Report
by
Michael C. Moore
April 4, 1975

County: Bartholomew
Company: Columbus Gravel Division of B.D.W. Corp.
Mailing Address: P. O. Box 866, Columbus, Indiana 47201
Phone: 812-342-4497
Descriptive Location: 1 mi. E. of Jct. with U.S. 31A in Walesboro, at
E. Fork White River
Congressional Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7, T. 8 N., R. 6 E., Columbus
quad
Date of Field Visit: April 2, 1975
No. of Employees: 4
Products: pit run, coarse sand, mortar sand, top dirt
Market Area: local
Shipping: independent trucks

This is one of only a few operations in the state that exploits the bed-load of a flowing stream. The East Fork White River is normally about 4 feet deep at this spot, but Columbus Gravel's 10/8 inch dredge mines it out to 35 feet. They are required to get a permit from the state to do this, but do not pay a royalty. Approximately 50 acres (both sides of the river) are owned. The river refills the hole each time it floods.


A few feet to 6 feet of soil overlies sand along the banks, and occasionally this material caves in. The dredge generally stays away from the bank, however, because roots and mud pockets are found there. In the center of the current the mud and roots are washed away. If the dredge is stopped after pumping out a hole the normal current will refill the hole in 1 hour with enough sand to continue pumping for an additional 3 hours.

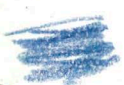
Recent flooding damaged the dredge and the pipeline, and the plant was not in operation at the time of this visit. The company plans to increase the dredge's reach to 50 feet. The processing plant will be replaced, as the present plant, constructed mostly of wood, operates only a few hours before breaking down.


The company has operated here for 2 years. Columbus Gravel was operated by the former owner for about 20 years before his death. B.D.W. Corp. is a land development company and owns no other aggregate production facilities.

3, 4, 11
↓

Clay 

Hardpan 


Blue clay 
+ Gray


Brown clay 
+ yellow


Shale 


LS 

Sand 

Gravel 

Sand & gravel 

Clay & sand 

Drift 

Columbus
Jonesville
Eolia

Bart County



1

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana

T 8N ; R 6E ; Section 2 E 7000 Quad

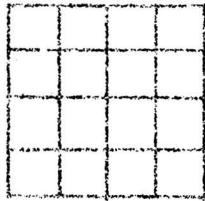
1/2 S 1/2 SE 1/4 NW 1/4

NE, EL, SL, WL,

Well Name #

Oil ☒ , Water ☐ , Eng. boring ☐ , Seismic ☐ , Strat. Sect. ☐ ; Gas ☐ ,

Abandoned ☐ , Date



0 to 12 ft: Clay
18 ft: H.P.
42 ft: B.C.
57 ft: slate
78 ft: LS

Surface elevation 640 ; ft:

Bedrock elevation 600 ; ft:

Depth to Bedrock 40 ; ft:

Bedrock formation ; ft:

Total depth ; ft:

Logs available ; ft:

ft: ; ft:

Static Water Level /Depth ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:



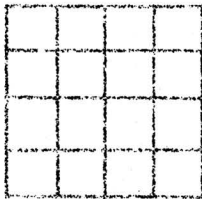
Barr County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES
611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana
T 8N ; R 6E ; Section 2 E Town Quad

NE NE SW
NL, 2750 EL, 2300 SL, WL,

Well Name #
Oil, Water, Eng. boring, Seismic, Strat. Sect.; Gas
Abandoned Date



0 to 15 ft: Yellow clay
42 ft: Gray clay
57 ft: Black shale
145 ft: LS

Surface elevation 695 ft:
Bedrock elevation 603 ft:
Depth to Bedrock 42 ft:
Bedrock formation ft:
Total depth ft:
Logs available ft:
ft:
Static Water Level /Depth ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:

Bart County



Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES
611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana Columbus
T 8N ; R 6E ; Section 5 ~~2~~ town Quad

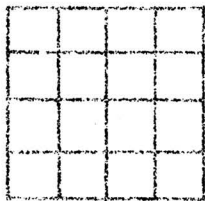
1/4 SE 1/4 SW 1/4 SE 1/4

NL, EL, 150 SL, 3700 WL,

Well Name _____ # _____

Oil _____, Water ☒, Eng. boring _____, Seismic _____, Strat. Sect. _____; Gas _____,

Abandoned _____ Date _____



0 to 3 ft: Clay

14 ft: SD

27 ft: Clay

60 ft: SD

Surface elevation 612 ; 65 ft: GV

Bedrock elevation _____ ; _____ ft: _____

Depth to Bedrock _____ ; _____ ft: _____

Bedrock formation _____ ; _____ ft: _____

Total depth _____ ; _____ ft: _____

Logs available _____ ; _____ ft: _____

_____ ; _____ ft: _____

Static Water Level _____ /Depth _____ ; _____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____



County _____

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

Barth

County, Indiana

Columbus

T 8N; R 6E; Section 5 4 Town Quad

NW SE SE

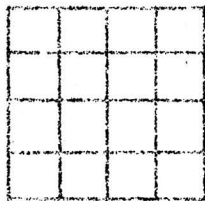
NL, EL, 1250 SL, 1950 WL,

[illegible]

Oil _____, Water _____, Eng. boring _____, Seismic _____, Strat. Sect. _____; Gas _____.

Abandoned

Date _____



0 to 18 ft: Clay

25 ft: SD + Clay

46 ft: Blue Clay

50 ft: S + G

Surface elevation 615 ; ft: _____

Bedrock elevation _____; _____ ft:

Depth to Bedrock : ft:

Bedrock formation : ft:

Total depth : ft: _____

Logo available _____, ft: _____

_____ ; _____ fct:

Static Water Level /Depth : ft:

Et: _____ Et: _____

ft:	ft:

ft: ft:

ft: ft:

ft: ft:

ft. 2

ft. 3



County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

Bart

County, Indiana

T *8N* ; R *6E* ; Section *12* *E Town* Quad

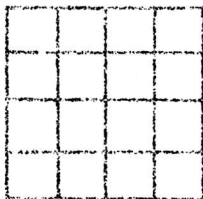
1/4 NE 1/4 SE 1/4 SE 1/4

NEL *150* EL *700* SL WL

Well Name #

Oil , Water , Eng. boring , Seismic , Strat. Sect. ; Gas ,

Abandoned , Date :



0 to *12* ft: *Yellow clay*
18 ft: *HP*
24 ft: *Blue clay*
34 ft: *Slate*
78 ft: *LS*

Surface elevation *660* ;

Bedrock elevation ; ft:

Depth to Bedrock ; ft:

Bedrock formation ; ft:

Total depth ; ft:

Logs available ; ft:

; ft:

Static Water Level /Depth ; ft:

ft: ft:

ft: ft:

ft: ft:

ft: ft:

ft: ft:

ft: ft:

ft: ft:

Barth County



Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES
611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana
T 8N ; R 6E ; Section 15 4 town Quad

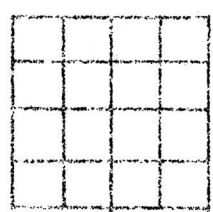
1/2 SE 1/2 SE 1/2

NL, EL, SL, WL,

Well Name #

Oil, Water, Eng. boring, Seismic, Strat. Sect.; Gas

Abandoned Date



0 to 25 ft: Clay + SD

30 ft: quicksand

38 ft: HP

45 ft: Blue Clay

60 ft: Black Shale

62 ft: White LS

65 ft: Pk LS

Surface elevation 640

Bedrock elevation

Depth to Bedrock

Bedrock formation

Total depth

Logs available

Static Water Level /Depth

ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:
ft: ft:



Bart County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES
611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana
T 8N ; R 6E ; Section 16 ETown Quad

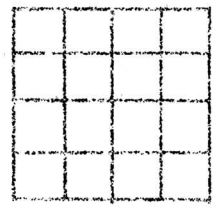
1/4 NW 1/4 NW 1/4 SE 1/4

NL, 2050 EL, 2100 SL, _____ WL, _____

Well Name _____ # _____

Oil _____, Water _____, Eng. boring _____, Seismic _____, Strat. Sect. _____; Gas _____,

Abandoned _____, Date _____



0 to 2 ft: TS
12 ft: Grey HP
26 ft: Brown S+G
ft: _____

Surface elevation 612 ft: _____

Bedrock elevation _____ ft: _____

Depth to Bedrock _____ ft: _____

Bedrock formation _____ ft: _____

Total depth _____ ft: _____

Logs available _____ ft: _____

_____ ft: _____

Static Water Level _____ /Depth _____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____

_____ ft: _____



Barth

County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana

T 8N ; R 6E ; Section 16 Etown Quad

5 NE

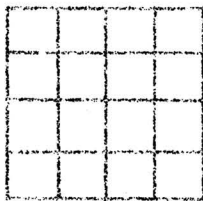
_____ NL, _____ EL, _____ SL, _____ WL,

Well Name	#
-----------	---

Oil _____, Water _____, Eng. boring _____, Seismic _____, Strat. Sect. _____; Gas _____,

Abandoned _____

Date _____



0 to	10	ft	Drift
	50	ft	Yellow sdy clay
	88	ft	Sand
	109	ft	Ls

Surface elevation 670 ; ft:

Bedrock elevation _____; ft. _____

Depth to Bedrock : ft:

Bedrock formation : ft:

Total depth	5	50
-------------	---	----

Logo available , fr:

fz:

Static Water Level	/Depth	:	ft:
--------------------	--------	---	-----

_____ ft. _____ ft.

ft: ft:

f_1

_____ ft: _____ ft:

ft: ft:

ft: ft:

ft: ft;



County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

Barth

County, Indiana

T 8N ; R 6E ; Section 16 E to W Quad

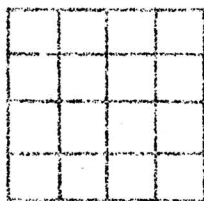
1/2 SE 1/2 SE 1/2 NE 1/2

NL 650 EL 2800 SL WL

Well Name #

Oil , Water , Eng. boring , Seismic , Strat. Sect. ; Gas ,

Abandoned , Date



0 to 3 ft: clay

51 ft: sand

65 ft: clay

80 ft: sand

Surface elevation 600 ; 93 ft: clay

Bedrock elevation ; 95 ft: Gravel

Depth to Bedrock ; ft:

Bedrock formation ; ft:

Total depth ; ft:

Logs available ; ft:

; ft:

Static Water Level /Depth ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:



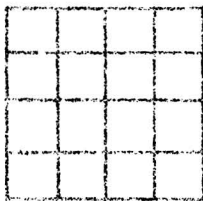
County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

Barth County, Indiana
T 8N ; R 6E ; Section 16 2 town Quad
1/4 SE 1/4 SE 1/4 SE 1/4
NL, 2900 EL, 2900 SL, WL,

Well Name _____ # _____
Oil _____, Water _____, Eng. boring _____, Seismic _____, Strat. Sect. _____; Gas _____,
Abandoned _____, Date _____;



0 to 21 ft: Clay + Sand
35 ft: Sand
48 ft: Clay
71 ft: Sand

Surface elevation 610 ; 96 ft: Clay
Bedrock elevation _____ ; 98 ft: Gravel

Depth to Bedrock _____ ; _____ ft:

Bedrock formation _____ ; _____ ft:

Total depth _____ ; _____ ft:

Logs available _____ ; _____ ft:

_____ ; _____ ft:

Static Water Level _____ /Depth _____ ; _____ ft:

_____ ft: _____ ft:

_____ ft: _____ ft:

_____ ft: _____ ft:

_____ ft: _____ ft:

_____ ft: _____ ft:

_____ ft: _____ ft:

_____ ft: _____ ft:



County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

Berth

County, Indiana

T. *8N* ; R. *6E* ; Section *19* *Jonesville* Quad

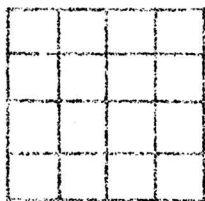
1/4 NW 1/4 NE 1/4 SW 1/4

NEL, EL, *2500* SL, *2000* WL,

Well Name #

Oil, Water ☒, Eng. boring, Seismic, Strat. Sect., Gas,

Abandoned, Date



0 to *20* ft: *Sandy clay*
75 ft: *Lt. blue shale hard*

ft:

ft:

Surface elevation *603* ft:

Bedrock elevation ft:

Depth to Bedrock *20* ft:

Bedrock formation ft:

Total depth ft:

Logs available ft:

ft:

Static Water Level /Depth ft:

ft:

ft:

ft:

ft:

ft:

ft:

ft:



County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES
611 N. Walnut Grove, Bloomington, IN 47401

Barth

County, Indiana

T. *6N* ; R. *6E* ; Section *22* *A 2alia* Quad

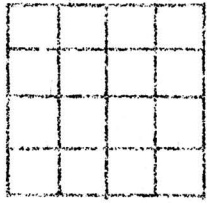
1/4 SE 1/4 SW 1/4 SE 1/4

NL, *1700* EL, *150* SL, WL,

Well Name #

Oil, Water, Eng. boring, Seismic, Strat. Sect., Gas,

Abandoned, Date



0 to *12* ft: *Clay*

18 ft: *HP*

40 ft: *B.C.*

48 ft: *Stone*

Surface elevation *620* ; *109* ft: *LS*

Bedrock elevation *580* ; ft:

Depth to Bedrock *40* ; ft:

Bedrock formation ; ft:

Total depth ; ft:

Logs available ; ft:

ft: ; ft:

Static Water Level /Depth ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

ft: ; ft:

Barth.

County



Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

County, Indiana

T 9W ; R 6E ; Section 32 Col's Quad

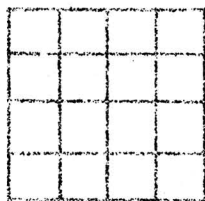
NE NW NE

300 1400 SL, WL,

[illegible]

Oil, Water, Eng. boring, Seismic, Strat. Sect.; Gas

Abandoned	Date



620

0 to 10 ft: Sandy clay

26 8.8.01
GV

100-443888-100

$\frac{d}{dt} \left(\frac{1}{r^2} \right) = -\frac{2}{r^3} \frac{dr}{dt}$

Surface elevation _____; _____ ft:

Bedrock elevation _____ ; ft: _____

Depth to Bedrock _____; _____ ft:

Bedrock formation ; ft:

Total depth : ft:

Logn available _____ ft:

Static Water Level / Depth : fms

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was significantly higher for the 10 trials condition than for the 5 trials condition. Error bars represent the standard error of the mean.

[illegible]
$$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$$
[illegible]

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was significantly higher for the 10 trials condition than for the 5 trials condition. Error bars represent the standard error of the mean.

611 N. Walnut Grove, Blomington, IN 47401

[illegible]



County

Water Well Data Sheet
INDIANA STATE GEOLOGICAL SURVEY
DEPT. OF NATURAL RESOURCES

611 N. Walnut Grove, Bloomington, IN 47401

Bartle

County, Indiana

T. 9W ; R. 6E ; Section 4 ETown Quad

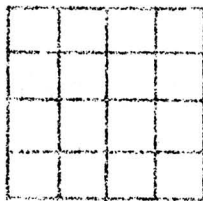
1/2 W 1/2 NE 1/2 SW 1/2

NEL 3600 EL 2500 SL WL

Well Name #

Oil , Water ✓, Eng. boring , Seismic , Strat. Sect. ; Gas

Abandoned Date



0 to 14 ft: brn. clay

18 ft: sn

28 ft: B.C.

44 ft: snpy sand

Surface elevation 640 ; 53 ft: br. clay

Bedrock elevation 53 ; 66 ft: stone

Depth to Bedrock 53 ; ft:

Bedrock formation ; ft:

Total depth ; ft:

Logs available ; ft:

; ft:

Static Water Level / Depth ; ft:

ft:

ft:

ft:

ft:

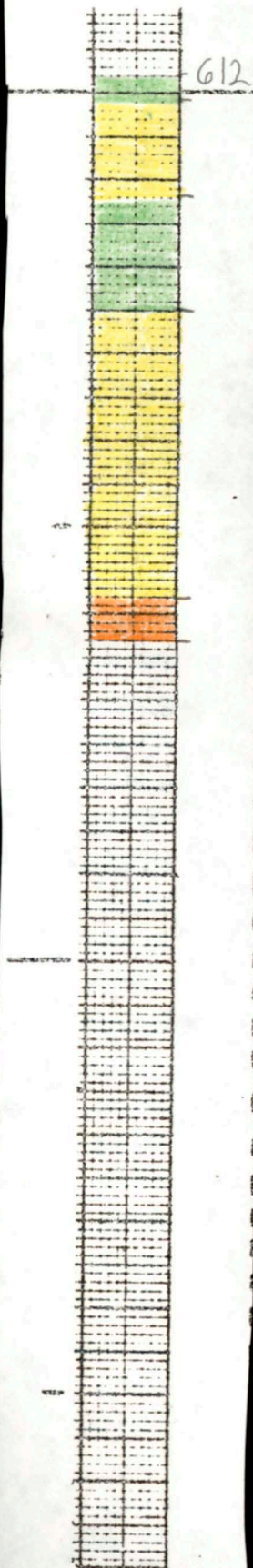
ft:

ft:

ft:

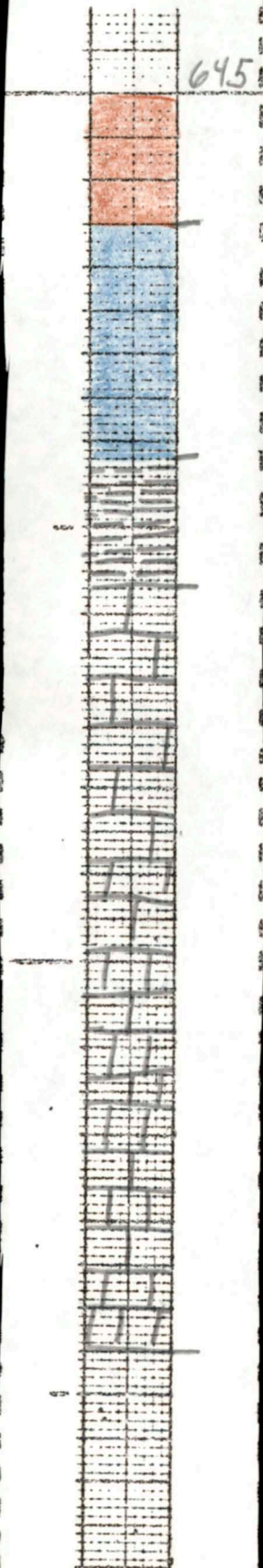
③

5 T. 8 N. R. 6 E
Eliz. Town quad
Bartholomew Co.



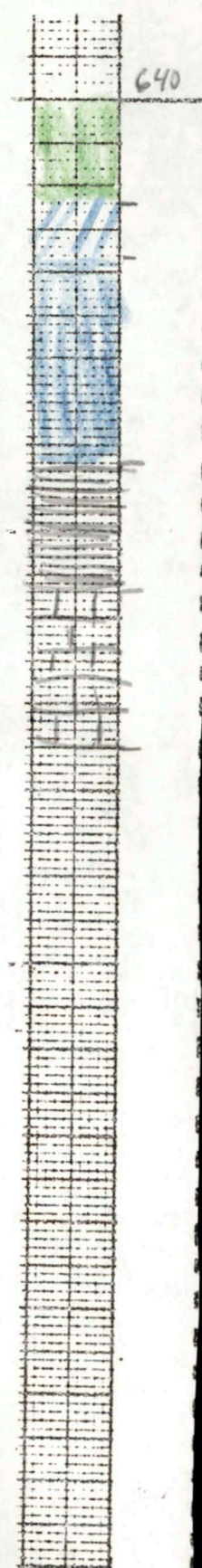
②

Bartholomew
2 T. 8 N. R. 6 E
Eliz. Town quad
Barth. Co.



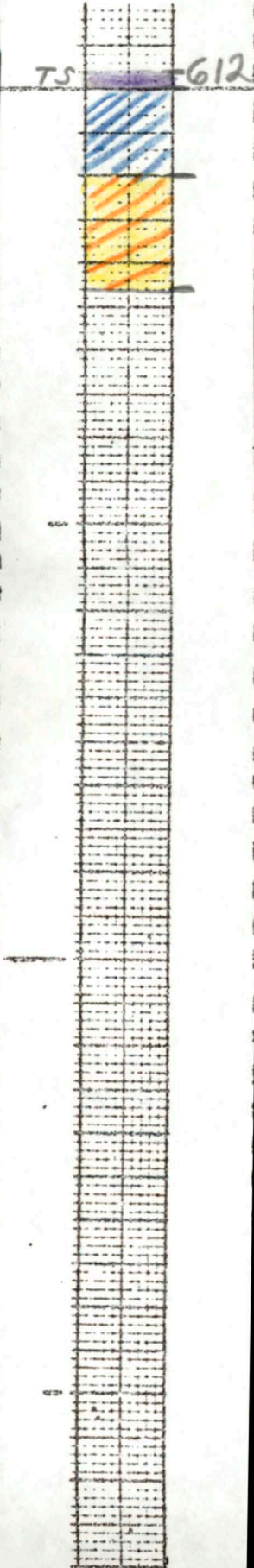
Bartholomew

①
2 T. 8 N. R. 6 E
Eliz. Town quad
Barth. Co.



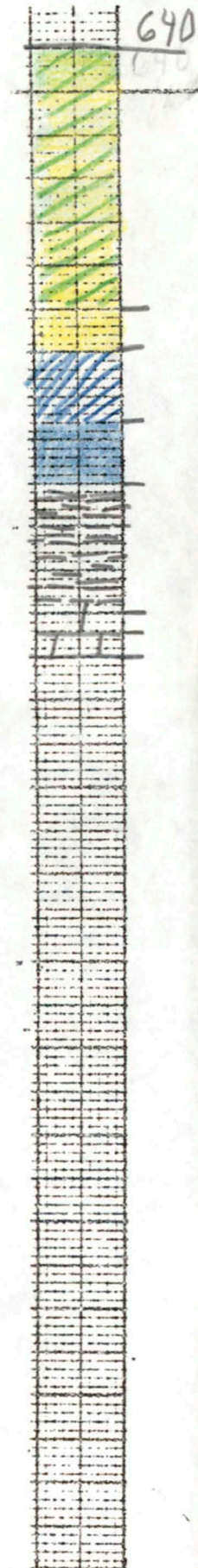
7

16 T. 8N. R. 6E
Eliz. town quad
Bartholomew Co.



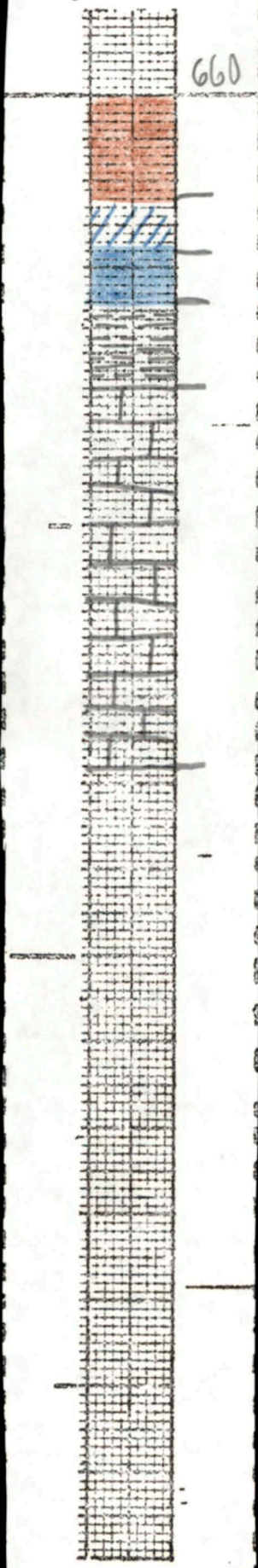
6

15 T. 8N. R. 6E
Eliz. town quad
Bartholomew Co.



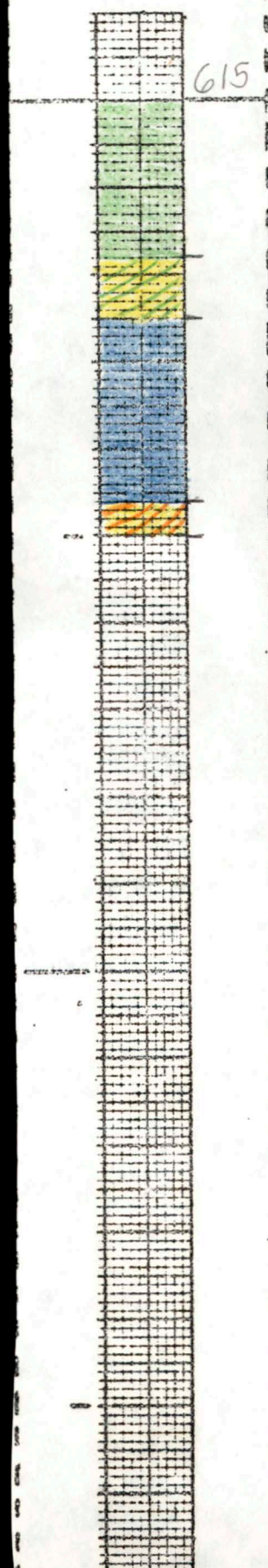
5

12 T. 8N. R. 6E
Eliz. town quad
Bartholomew Co.



4

5 T. 8N. R. 6E
Eliz. town quad
Bartholomew Co.



(12)

22 T. 8 N. R. 6 E.
Zalia quad
Bartholomew Co.

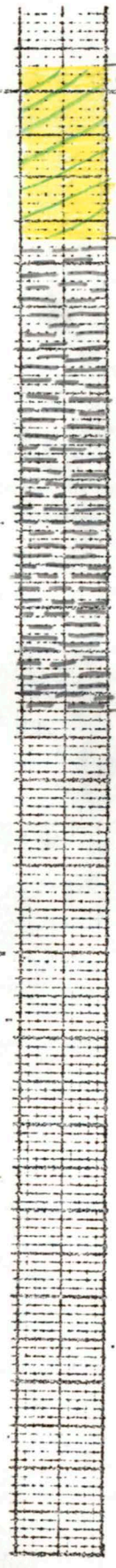
620



(11)

19 T. 8 N. R. 6 E.
Joherville quad
Bartholomew Co.

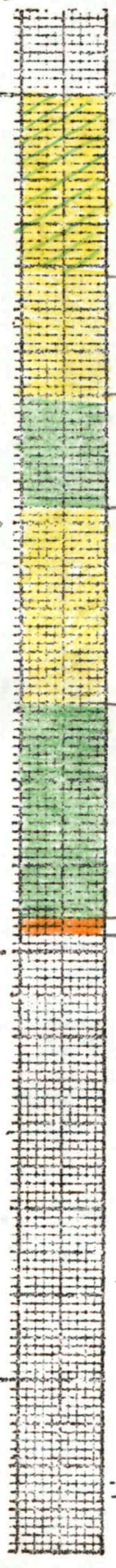
600



(10)

16 T. 8 N. R. 6 E.
Eliz. twnd quad
Bartholomew Co.

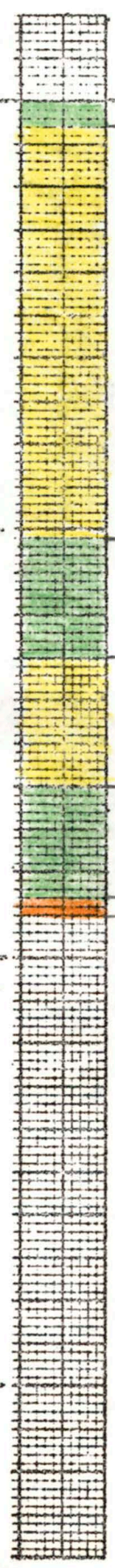
610



(9)

16 T. 8 N. R. 6 E.
quad
Co.

600



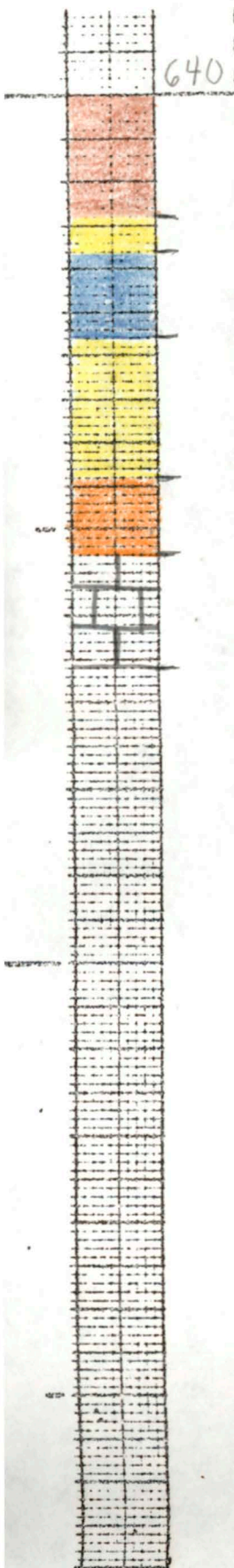
(8)

16 T. 8 N. R. 6 E.
Eliz. twnd quad
Bartholomew Co.

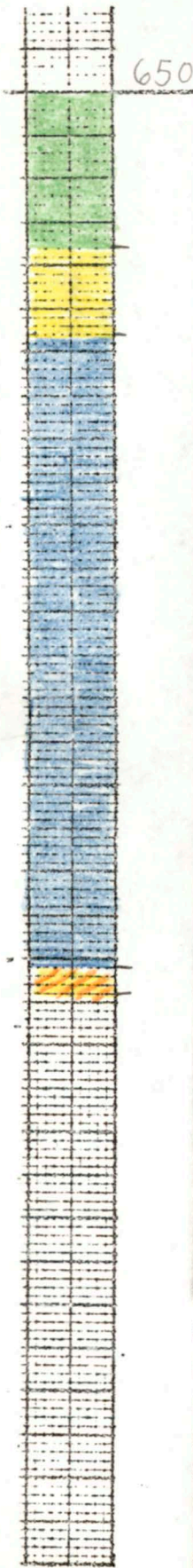
610



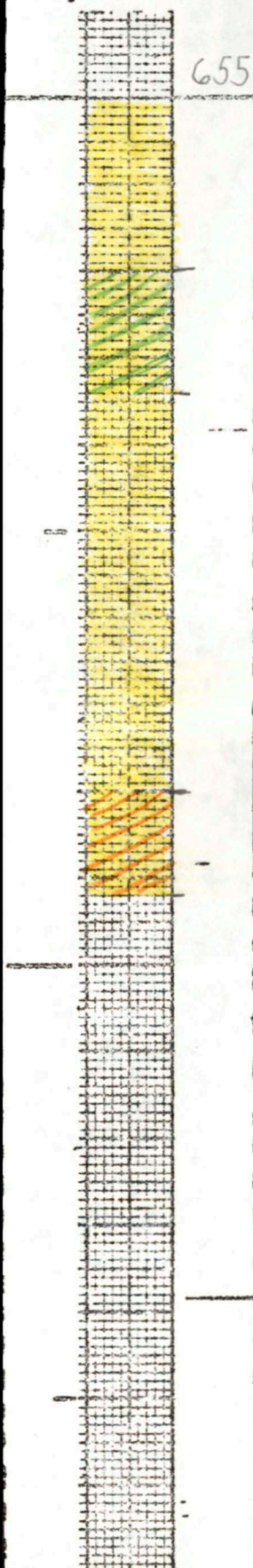
(17)
14 T. 9N. R. 6E
Eliz. Town quad
Barth. Co.



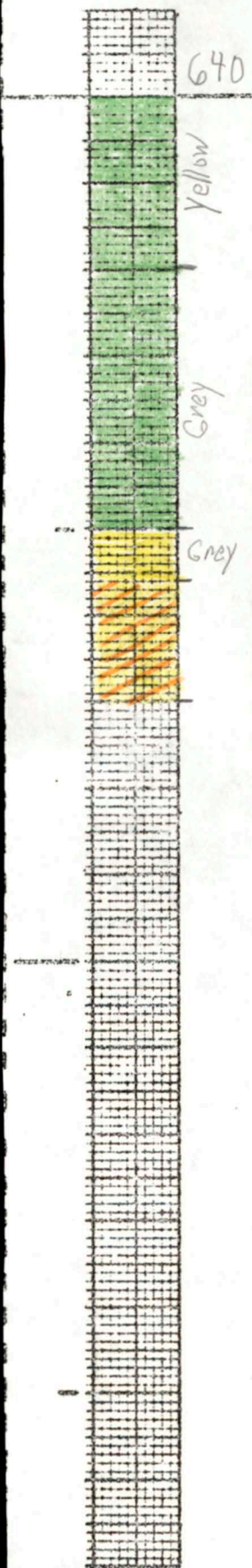
(16)
33 T. 9N. R. 6E
Eliz. Town quad
Barth. Co.



(15)
33 T. 9N. R. 6E
quad
Co.



(17)
32 T. 9N. R. 6E
Columb. quad
Barth. Co.



(13)
32 T. 9N. R. 6E
Columb. quad
Barth. Co.

