

- A. A summary of sand and gravel deposits
- B. Memorandum Report: Parker Gravel Company
- C. Memorandum Report: Cliff Hudson Pit
- D. Memorandum Report: Irving Materials Gravel Pit
- E. Memorandum Report: Buster's Cement Products
- F. Bedrock Topography
- G. Geologic Map
- H. Drift ThicknessRP7
- I. Memorandum Report: Irving Materials, Mt. Summit

October 1, 1949

MEMORANDUM REPORT BY DALLAS FIANDT, JR.

SAND AND GRAVEL DEPOSITS OF HENRY COUNTY

Date of field examination.--July 26, 27, 28, 1949

Sources of information.--An unpublished soil map was made available by Mr. T. M. Bushnell of the Agricultural Experiment Station at Purdue University. This detailed soil map well illustrates the terraces and outwash features underlain with sand and gravel.

No topographic quadrangle maps are available for Henry County.

An old report on road materials (Taylor, 1906, pp. 439-459) gave numerous pit locations and a brief discussion of the glacial geology. Many of the pits have been filled and little evidence remains of the shallow ones.

Geology.--Henry County was completely covered by Illinoian and Wisconsin glaciation. Moraines of the Shelbyville and Bloomington Morainic Systems and the Champaign Glacial Substage converge in the northeastern part of the county (see Malott, 1922, pl. 3). Isolated patches of Bellefontaine soil, commonly underlain by sand and gravel, occur in these areas. Two major sluiceways, now occupied by Big Flat Rock and Big Blue Rivers, parallel the moraines. Smaller streams, such as Duck and Fall Creeks, also carried vast amounts of glacial debris. Prominent terrace levels, on which Fox, Homer, Westland, and Abington soils are developed, occur along these sluiceways. The gravel deposits are extremely thick and are known to reach a depth of 186 feet west of New Castle along Duck Creek, where the material is quite coarse, and has a 50-50 sand-gravel ratio. Gravel is known to exist to a depth of at least 50 feet, at Knightstown, in the terraces of Big Blue River. At least 20 feet of gravel is known to occur in the low terrace along Big Flat Rock River. These sluiceways average more than a mile in width and provide the county with abundant gravel.

Kamal and outwash material are most abundant in the northern part of the county although erratic patches occur throughout the county. Southeast of Middletown gravel is known to occur in thicknesses exceeding 60 feet in kamal material. The gravel, however, is more sandy than in the sluiceways.

Two pits were found in a possible esker in sec. 3, T. 18 N., R. 10E., 1 mile southeast of Springport. Leverett (1915, pl. 6) recognized an esker, approximately 4 miles in length, 3 miles west of New Castle. However, the soil map shows Bellefontaine soil, which normally overlies a Wisconsin esker, to be confined to a small part of the supposed esker. The shape and relations of this area of Bellefontaine soil are suggestive of a kame terrace.

Sources of materials.--Of the 38 pits visited, 10 were active, 5 active on demand, and 23 abandoned. Only one pit is producing washed and sized material. Many of the active operations are quite small but can operate economically because of advantage in transportation distance. Gravel with thin overburden is available within a few miles of any part of Henry County.

Respectfully submitted,

*Dallas Fiantt Jr.*

Dallas Fiantt, Jr.

Geologic Field Assistant

---

Leverett, Frank, and Taylor, F. B. (1915) The Pleistocene of Indiana and

Michigan and the history of the Great Lakes, U. S. Geol. Survey Mon. 53,  
523 pages, 32 plates, 15 figures

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

Taylor, A. E. (1906) The roads and road materials of portions of central and  
eastern Indiana, Indiana Dept. of Geology and Natural Resources, 30th  
Annual Report, pp. 439-459.

August 28, 1948

MEMORANDUM REPORT BY JOHN B. PATTON

PARKER GRAVEL COMPANY WEST OF NEWCASTLE, HENRY COUNTY

Date of field examination.-- August 26 and 27, 1948.

Location.-- Four miles west of the city of Newcastle, in Henry County, the Parker Gravel Company operates a pit and plant in the SE $\frac{1}{4}$  NE $\frac{1}{4}$  and the NE $\frac{1}{4}$  SE $\frac{1}{4}$  sec. 12, T. 17 N., R. 9 E.

Ownership.-- The present operations are on a 15 acre tract held under mineral lease and owned by Mr. Wm. Fridley, who resides on the farm of which the tract is a part.

The company is owned and managed by Mr. Robert Parker, of Newcastle. Information for this report was furnished by Mr. Parker and by Mr. Paul Beck, superintendent of the operation.

Geology.-- Leverett (1915, p. 97) has made the following statement:

"Immediately west of Newcastle about 4 miles is the north end of a sharp gravel ridge which forms the front of the (Bloomington) moraine for 5 miles, terminating on the south at the village of Greensboro. It lies along the east side of Duck Creek and rises abruptly about 50 feet above the swampy plain through which the creek flows and about 20 feet above the plain on the east. In form and constitution it is strikingly like an esker, but its position with respect to the moraine is not the usual one. Instead of leading into the moraine, from the inner border district it appears to have been developed along the edge of the ice sheet. Between it and the gravel plain along East White (Blue) River is a till plain of remarkable smoothness about 2 miles in width, but on its western side the topography is morainic."

The esker has its long axis in the direction South 16° East, and extends along the line between Ranges 9 and 10 East. The Parker pit is situated on the west flank of the north end of the esker.

Overburden has consisted of dark soil containing much organic matter, and has been 2 feet in average thickness.

The southernmost pit shown on the accompanying map is being extended and is developed to a depth of 6 feet. The western pit is also in operation, and has an average depth of 20 feet. A layer of blue clay 4 feet thick is found at a depth of 35 feet. A pit across the road east of the Parker plant was developed to a maximum depth of 75 feet. Two wells drilled for gas in the near vicinity have each been in gravel to the top of bedrock, at a depth of 186 feet. One of the wells was located at the center of the NE $\frac{1}{4}$  sec. 12, T. 17 N., R. 9 E., and the other in the SW $\frac{1}{4}$  sec. 7, T. 17 N., R. 10 E.

Sample 48191 was collected 140 feet from the west end of the north wall of the northwest pit. The sample was obtained by taking equal amounts of material from three piles laid out for the purpose by the dragline shovel. Each pile contained  $\frac{3}{4}$  of a cubic yard of material. The bucket of the shovel was dragged up the bank in an attempt to remove sample from the entire face. The pit had been standing unused prior to the day of the sampling, and had accumulated enough settlings and cavings to furnish muddy material when the bucket was dropped entirely to the bottom. For this reason, the bottom 2 feet of the bank were not scraped. The sample represents the upper 18 feet of the gravel.

Sieve analysis, lithologic percentages, and a summary of particle shapes are shown on the accompanying table. Percentage of igneous and sedimentary material increased as the particle size decreased. Percentage of metamorphic material decreased with the particle size.

Operations.--- Operations at this location under the present management began in July 1946. Before that time the company operated in a now abandoned pit in the S $\frac{1}{2}$  SE $\frac{1}{4}$  of the same section in which it is now located.

The present holdings were previously operated by Mr. W. H. Joyner. A pit across the road to the east was formerly operated by Mr. Fridley, who also developed the east half of the largest pit shown on the accompanying map.

Equipment in use includes a Bay City  $3/4$  yard dragline, an Insley  $1/2$  yard dragline, a Minneapolis-Moline  $1/2$  yard front-end loader, and a Stedman cage mill. A slackline excavator, running from the plant across the southwest arm of the largest pit, is used to furnish material to the plant. However, this arrangement is used only as a method of stockpiling raw material, as the large pit serves as a reservoir for material brought by truck from the two smaller pits already mentioned. An inclined conveyor extending northwest from the plant was under construction at the time of this examination. When it is completed, material will move into the plant by conveyor instead of by means of the slackline excavator. Electricity is used for power in the plant. Two trucks are used to supply the plant with raw material. Ten men are employed by the operation. The company does its own stripping.

All material which will not pass a 4 inch sieve is discarded or sold as fill for erosion prevention. The operator estimates that 35 percent of the washed and sized gravel is crushed, and that 25 percent of the raw material is sand.

Production.-- Present daily production is 400 tons, which is nearly capacity. An estimated 60 percent is sold as pit run material. Various sizes of gravel and sand are sold, and special mixtures are produced to meet specifications.

Reserves.-- The operator estimates that 5 acres have now been devel-

oped to an average depth of 20 feet. The remaining 10 acres of the present lease, if taken to the same depth, will yield 214,800 tons of material. Deeper operation is possible, but the material below the 20 foot level becomes finer in average texture. The clay layer encountered in the western pit will not necessarily underlie the entire lease. It was not present in the pit east of the road.

Respectfully submitted,

*John B. Patton*  
John B. Patton  
Geologist

---

Leverett, Frank, and Taylor, F. B. (1915) The Pleistocene of Indiana and Michigan and the history of the Great Lakes, U. S. Geol. Survey, Mon. 53, 32 plates, 15 figures, 523 pages.

PARKER GRAVEL COMPANY

SIEVE ANALYSIS AND LITHOLOGIC CONSTITUENTS

UNIT	SAMPLE NO.	RETAINED ON		LITHOLOGIC TYPES (by percentage)			
		SIEVE SIZE (inches)	PERCENTAGE	IGNEOUS	SEDIMENTARY Chert    Total Sed.	METAMORPHIC	
		2.0	3.0	2.1	---	83.7	14.2
		1.05	4.5	---	---	85.9	14.1
		0.525	11.7	4.0	1.3	89.4	6.6
1	48191	0.185	31.0	4.4	3.2	92.0	3.6
		Total Gravel	50.2	Percent of Tot. Gravel	4.0	2.3	90.2
		under 0.185 (Sand)	49.8	---	---	---	---

PARKER GRAVEL COMPANY

SHAPES OF PARTICLES

RETAINED ON SIEVE SIZE (inches)	IGNEOUS	SEDIMENTARY		METAMORPHIC
		Chert	Other Sed.	
2.0	Sub A- Sub R	Nil	Sub R	Sub R
1.05	Nil	Nil	Do.	Do.
0.525	Sub R	A	Sub A	Sub R- A
0.185	Do.	Do.	Do.	Do.

R - Round    A - Angular

## MEMORANDUM REPORT

Michael Moore, Geologist

August 18, 1971

Date of field examination, Aug. 17, 1971

The Cliff Hutson (?) pit, an abandoned sand and gravel pit (NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 23, T. 16 N., R. 9 E., Knightstown Quad, Henry County) is being reclaimed as a private fishing lake. The pit has an area of approximately 2 $\frac{1}{2}$  acres, and is 15 feet deep. There is a lake with an area of about 3/4 acre in the north end. The water appears to be at least five feet deep. The owner was not present but contractors were engaged in grading an acre or so of ground around the top of the pit. Two small samples were taken: MM71-47 from an unwashed stockpile in the pit, and MM17-48 from a slumped face on the north side. These samples are not completely representative, as there was considerable large (4") to very large (4') material present. The deposit is in outwash in a terrace 30' above the present floodplain of Big Blue River.

## MEMORANDUM REPORT

Michael Moore, Geologist

August 18, 1971

Date of field examination, Aug. 17, 1971

The abandoned Irving Materials gravel pit, (NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 7, T. 16 N., R. 10 E., Dunreith Henry County) covered several acres. Material visible in stock and spoil piles appeared to be good quality gravel. Only a few places remain which show anything of the original configuration of the deposit. In one section near the southeast boundary. The following section is visible. The thickness of gravel at the base could not be determined. The contact of the till with the underlying sand and gravel is faulted and steeply inclined in places.

Soil, sand and gravel	2'	
Till, brown, pebbly, blocky	3 - 5'	MM71-61
Fine sand	1"- 0	
Medium gravel	3'- 5'	
Sand, medium	2'- 0	MM71-50
Gravel, med. to coarse & bedded	3'- ?	

Sample MM71-49 was taken from a stockpile.

## Memorandum Report by Michael C. Moore

Buster's Cement Products, Henry County

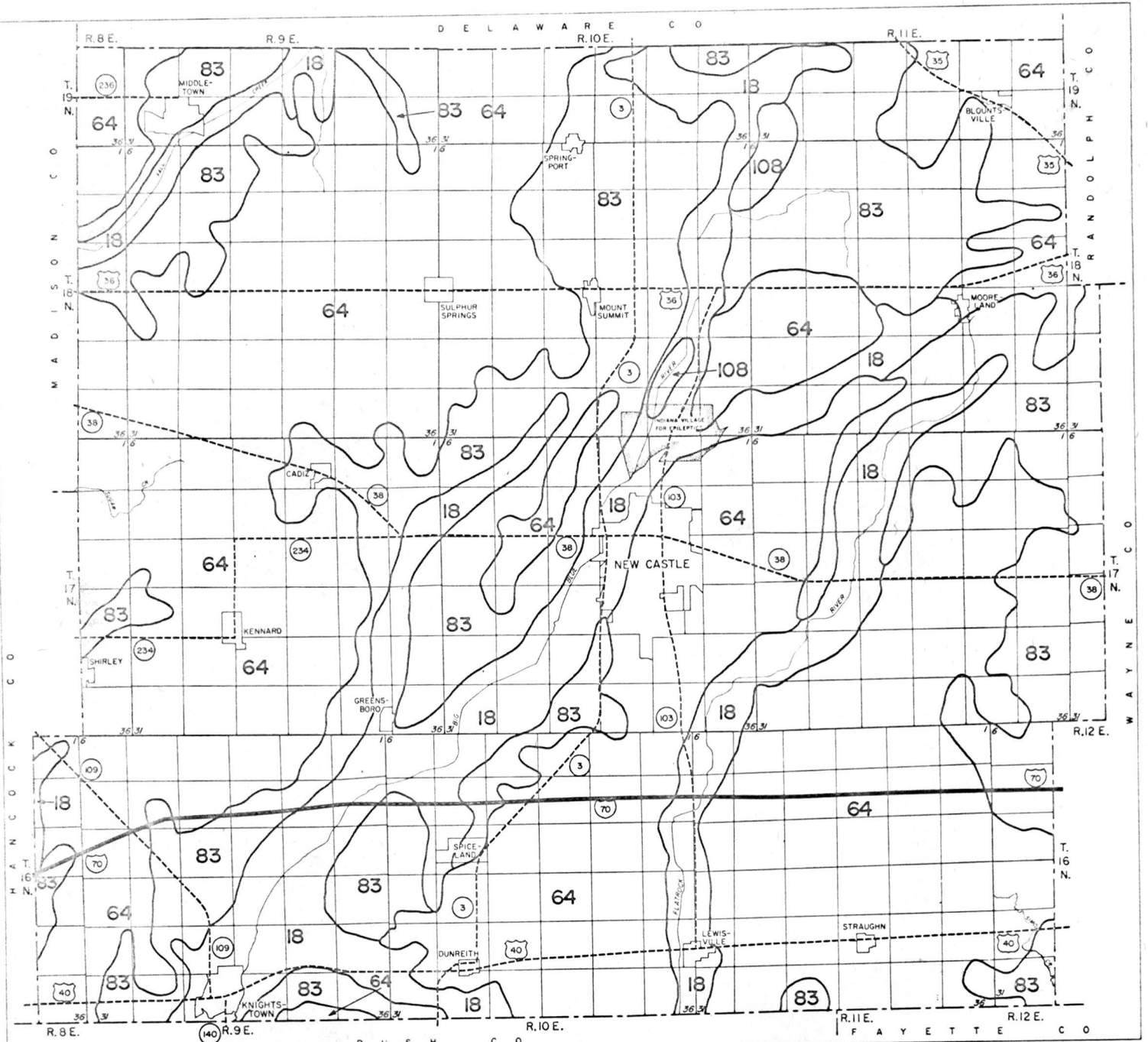
Date of Field Examination: May 14, 1971

Source of Information: Mr. Frank Hayes, Owner

Location: Two miles south of New Castle on Spiceland Rd.  
2.3 miles north of Spiceland where a Federal  
dam is located on Pink Creek,  $\frac{1}{2}$  mile upstream  
from Big Blue River.  
Dam is in NENENE Sec. 32, 17N, 10E.  
Plant is in NWNESE Sec. 32, 17N, 10E, both on  
New Castle W.

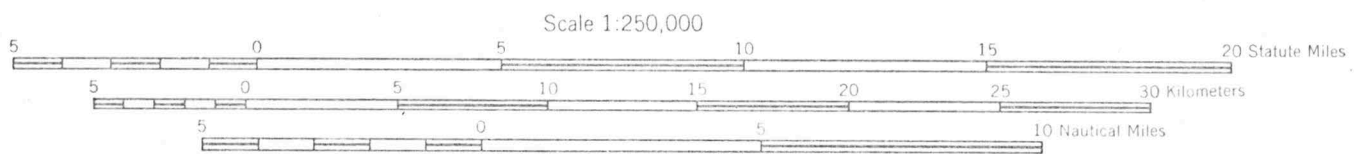
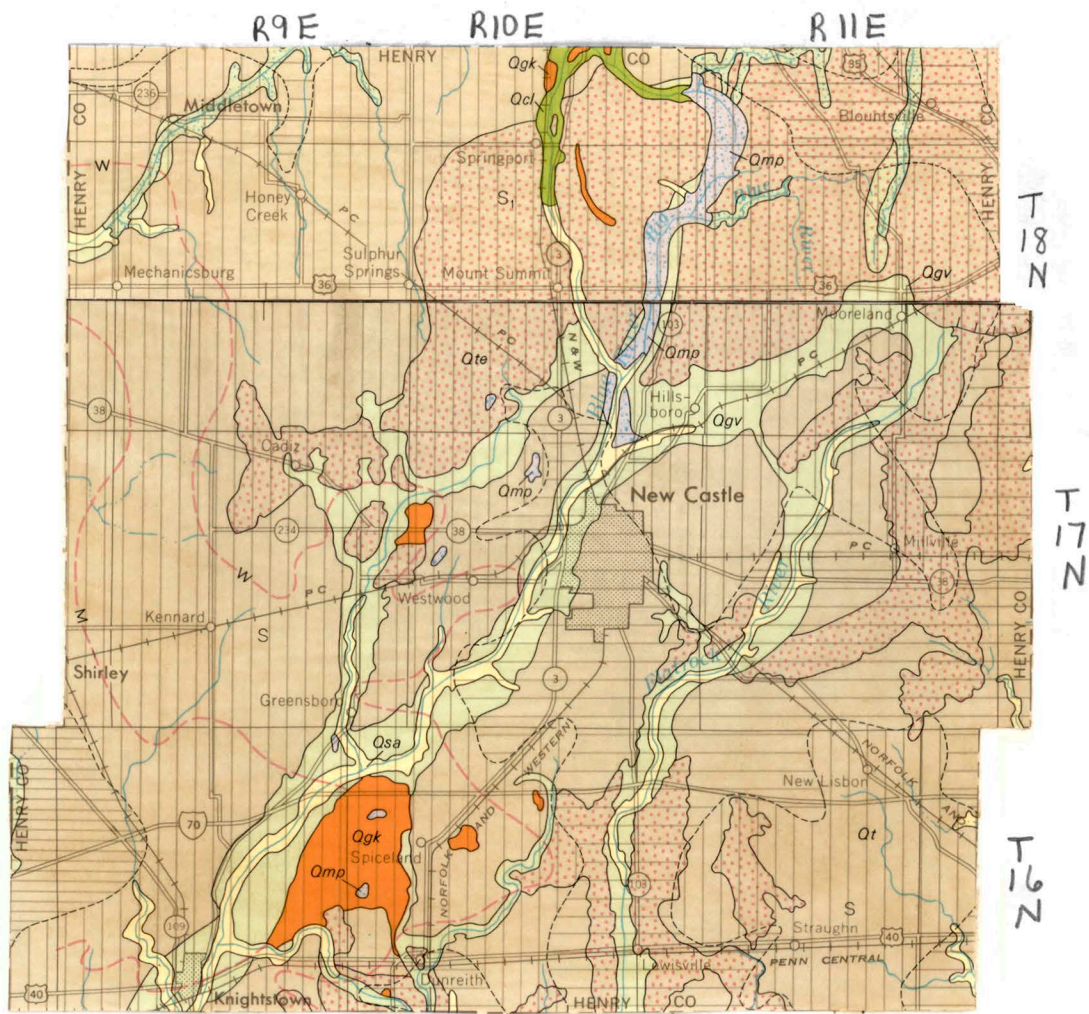
Mr. Hayes operates a ready-mix plant and presently buys his raw materials. He owns 18 acres where the dam will go. The government is stripping seven acres for fill and will expose about 12 feet of gravel. An abandoned gravel pit is located there with a small pond and some old equipment belonging to Mr. Hayes. The stripping is free, and since the land was taken from him, and will be given back when the project is finished, he believes that he will have a water supply. He stated that he could strip up to six feet economically. There is from 4 to 6 feet of overburden over the deposit, which runs 55 percent gravel.

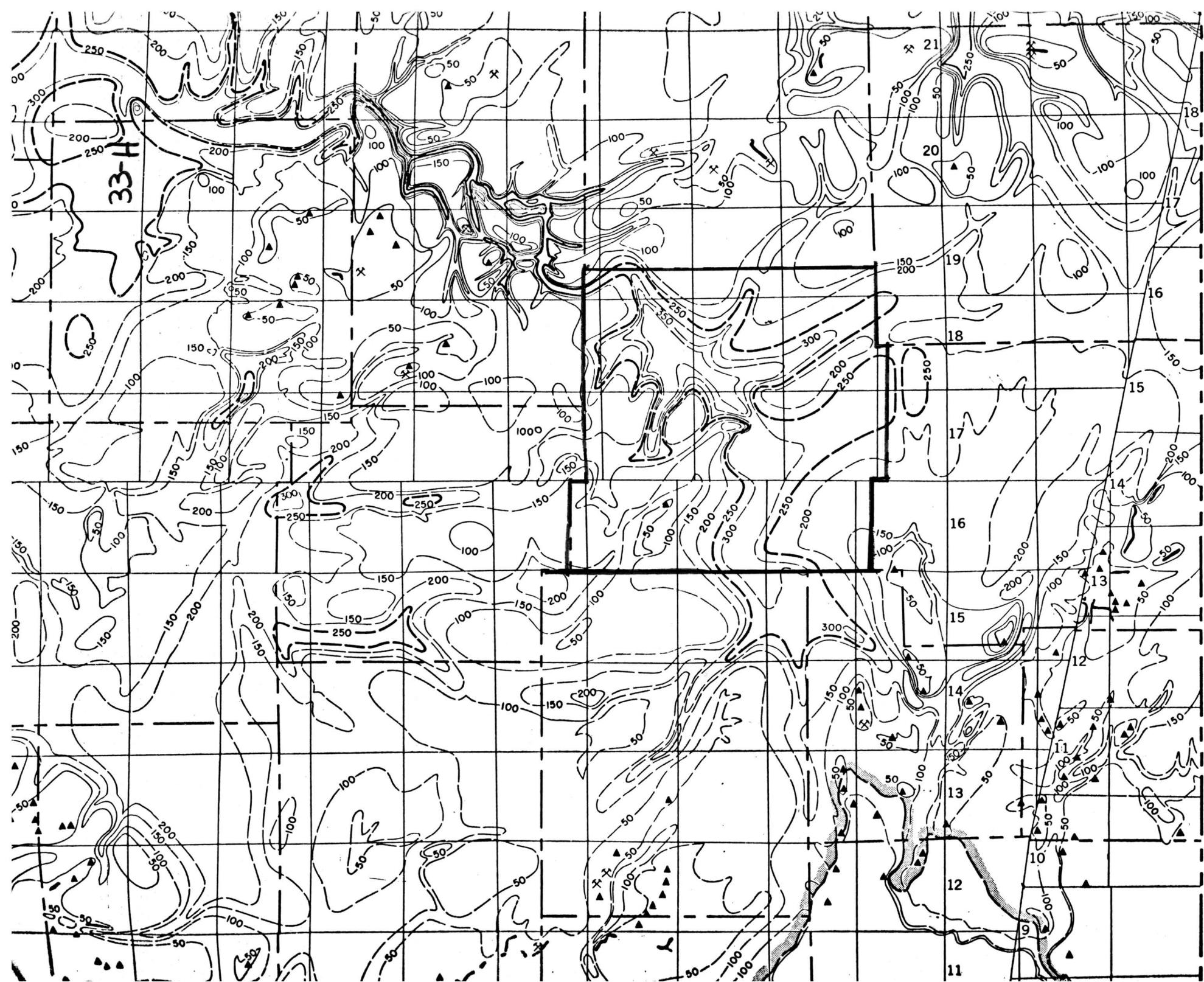
Mr. Hayes owns two screens, a jaw crusher, and some pumps. He would like to obtain a gyratory crusher and sand scrubber. If he opens the new pit, he will use lake water, then run it through a settling pond and return it. He reports that an Irving plant nearby is running 93% sand and will close soon. The city of New Castle now owns a property which was offered to Hayes. They intend to make it a graveyard. Presently Rieth-Riley is using gravel from this property for highway work. There is 53 feet of gravel on this land, according to Mr. Hayes. He regrets not having acquired the property and would be interested in a sand and gravel operation if he could find sufficient reserves in a good location, preferably close to a town.



BASE MAP OF HENRY COUNTY, INDIANA

- 64. Croxy broketon
- 83. Miami Crosby
- 18. Fox-Martinsville
- 108. Muck and peats





H

O

Memorandum Report  
by  
Michael C. Moore  
March 18, 1976

County: Henry  
Company: Irving Materials, Inc.  
Pit Name: New Castle Branch, Mt. Summit Location  
Mailing Address: P.O. Box 8, Mt. Summit, Indiana 47361  
Phone: 317-836-4821  
Officer: IMI officers, Jim Ray, pit. supt.  
Descriptive Location: NW corner of S.R. 3 at S.R. 36  
U.S.G.S. Location: SE $\frac{1}{4}$  sec. 15, T. 18 N., R. 10 E., Mt. Pleasant 7 $\frac{1}{2}$ ' quad  
No. of Employees: 5  
Products: Indiana State Specification Aggregates  
Date of Field Visit: March 4, 1976

This pit is not the one located in the 1975 Directory (Sec. 7, T. 17 N., R. 10 E.). That pit has been closed for several years. This pit is its replacement and was opened at this virgin site in 1972. This pit serves New Castle and areas east, west and south. Not much material is shipped to the north.

The gravel is mined by crane and end loaders from 30 foot dry bank, and put through a 150 TPH plant. The pit contains several fairly large igneous and metamorphic boulders and many pebbles of chert, Fe-oxide weathered schists, and foliated gniess. The upper 5 feet of soil has been stripped back to expose a surface on about 5 feet of coarse outwash. The next 8-10 feet consists of alternating cross-bedded sand and medium-coarse outwash. The lower 10 or more feet consists of coarse, broadly cross-bedded outwash with a silt break in the middle. There is a coarser layer immediately below the silt. A "blue clay" is reported to underlie the outwash and limit mining. A charge of 75¢/ton is made for the first 5 mi. and 10¢/ton each 2 mi. thereafter. Much of the production is used in the ready-mix business located on the same property.

A second pit, the Riggs pit, is used to augment the meager supply of gravel from the Mt. Summit pit. The Riggs pit is located in the SE $\frac{1}{4}$  NW $\frac{1}{4}$  NW $\frac{1}{4}$  sec. 2, T. 18 N., R. 10 E., Mt. Pleasant 7 $\frac{1}{2}$ ' quad in Henry County. The gravel appears to be in a buried kame or esker within the Knightstown Moraine and is finer-grained than the material at Mt. Summit. The section was estimated to contain 4 feet of soil, 5 feet of till, 8 feet of horizontally bedded sand and medium gravel, 5 feet of coarser, cross-bedded gravel, and 15 feet covered, presumably as above. The elevation of the field at the crest of the deposit is 1120 feet.