

75.

STARKE COUNTY

- A. A summary of sand and gravel deposits
- B. Detailed report: #5 - Project #49 5-1
- C. Detailed report: #10 - Project: The Virgin Pit
- D. Bedrock Topography
- E. Geologic Map
- F. Drift Thickness RP7

Gravel and Sand in Starke County, 1949.

Gravel is scarce in Starke County. Nearly all of the observed pits, active, inactive, and abandoned, are lined up east-west across the southern part of the county. These deposits appear to be outwash, formed either by ice which once stood east of Bass Lake leaving an inconspicuous moraine, or by recessional flood waters which streamed through the ~~Maxinkukee~~ moraine via the Yellow River gap and thence directly westward to the Kankakee River.

A most excellent dry bank deposit is located one mile northeast of Bass Lake. The Pearson Pit, near the Kankakee River one mile from the west border of the county, is a good example of a wet pit.

Gravel is reported locally along the Kankakee River along the northwest border of the county. It would seem that adequate deposits of gravel should be found along the southeast flood plains and terraces of the Kankakee bottoms, if the area were sufficiently explored. This gravel, when screened, makes an excellent product for use in concrete. Other areas, now covered with sand, may be underlain with gravel.

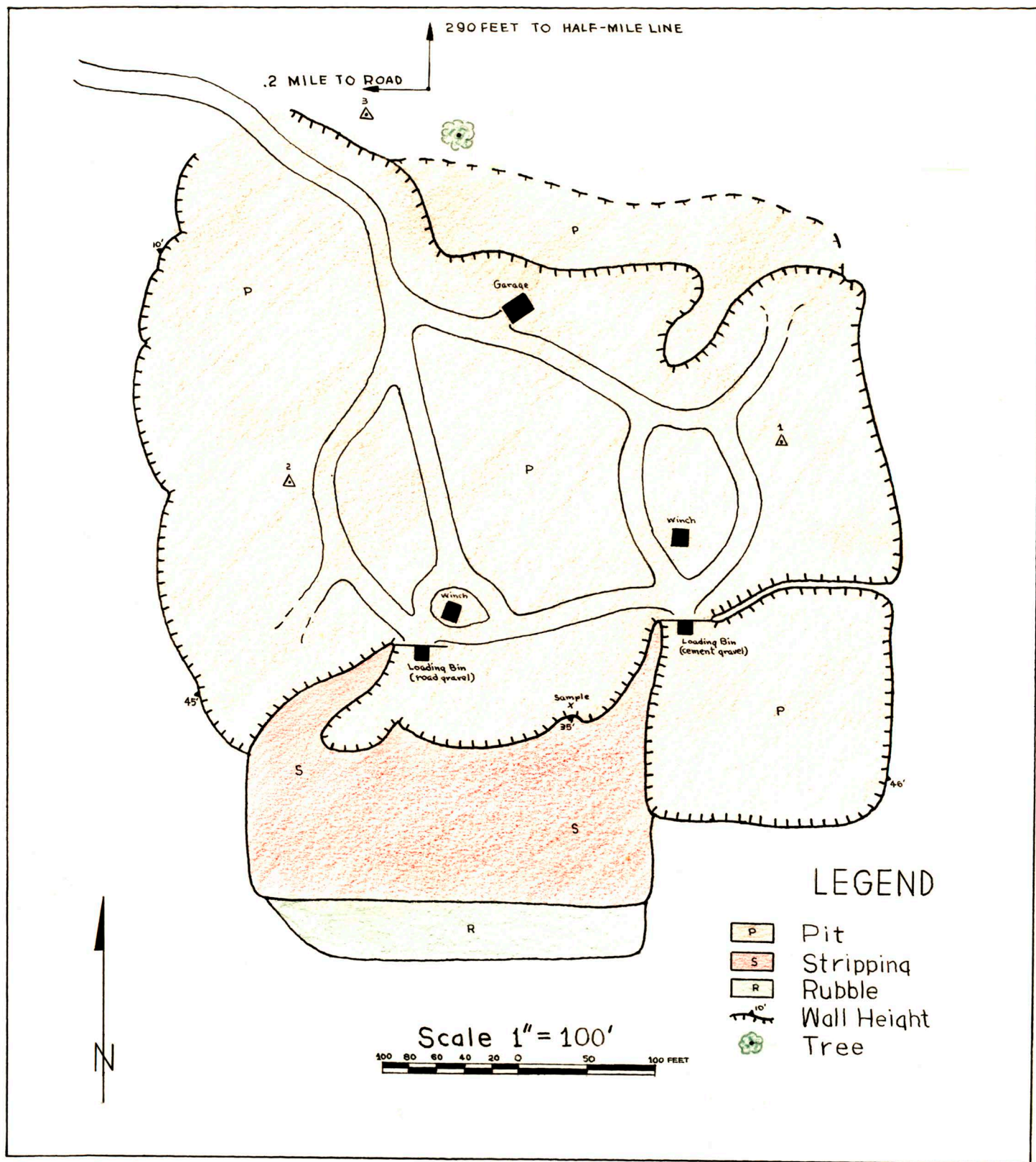
Sand, mainly of ancient dune variety, is abundant. The sand was blown from the Kankakee Bottoms during glacial and post glacial times. These sand ridges give some relief to a country otherwise monotonously flat. The sand is not put to economic use at the present.

Active pits observed ----- 5

Inactive and abandoned pits observed ---- 9

C. L. Bieber

C.L.Bieber
July 25, 1949



Control: Brunton Compass & Open-Sight Alidade

Mapped by C.L. Bieber & G.C. Grender
August 24, 1949

THE VIRGIN PIT

Detailed Report # 5, Project # 49 5-1, The Pearson Pit.

Location: 4 miles southwest of English Lake, Starke County, Indiana.

S.W. $\frac{1}{4}$ S.W. $\frac{1}{4}$ sec. 8, T. 32 N., R. 4 W.

Owner: R.D.Pearson ; also operator.

Transportation: Truck.

Equipment: Crane, used for stripping, dipping, loading.

Products: Pit run gravel, torpedo sand, masons sand.

Production: as demanded, apparently at present about 20-40 cu. yd. daily.

Pit detail: wet, active.
overburden, 2 - 4 ft., silty sandy alluvium.
gravel thickness, about 20 ft., blue clay below.
stones, clean, little shale. A fragment of coal (bitumen)
shows occasionally.

Sieve analysis of typical stock pile, near west end of pit(see map)

Remaining on 2" screen	-----	%
		1.7
" " 1" "	-----	3.0
" " $\frac{1}{2}$ " "	-----	8.5
" " $\frac{1}{4}$ " "	-----	22.3
Passing the $\frac{1}{4}$ " "	-----	64.5

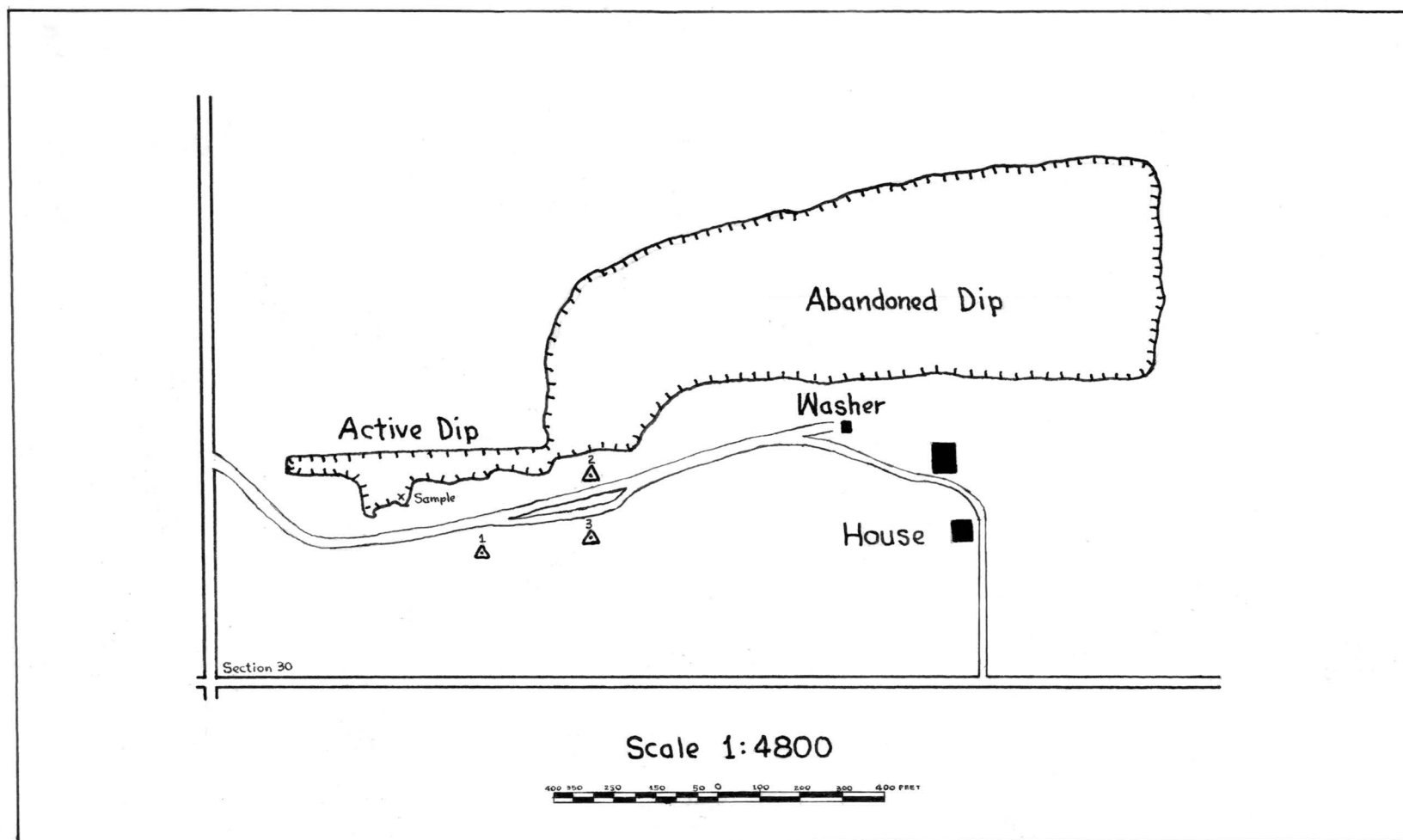
Geology: The deposit is approximately one mile from the Kankakee River in the lowland farm country. Several pits are located within a mile. Valley fill from torrents reworking the outwash from the Saginaw Lobe probably account for the gravel concentration. Sedimentary Pebbles include many of Devonian age.

Sample: # B49-9

Station 24-2(see number on card)

C. L. Bieber

C.L. Bieber
July 20, 1949



Control: Brunton Compass & Open-Sight Alidade

Mapped by C.L. Bieber & G.C. Grender
July 20, 1949

THE PEARSON PIT

Detailed Report # 10, The Virgin Pit, Project 49-5-1.

- Location: One mile NE. of Bass Lake, Starke County, Indiana.
One mile NNE of Winona
NW. SE. sec. 5, T. ³²33 N., R. 1 W.
- Owner: Joe Virgin, who lives in residence along north shore of Bass Lake; mailing address R.R.#1, Knox, Ind.
Mr. Virgin manages the pit, and owns 240 acres surrounding.
- Products: Road gravel, and cement gravel. The road gravel is mixed with sandy clay overburden in the dragline process. The cement gravel is taken from the lower part of the wall which was formerly used for road material.
- Operation: Worked as a dry pit. Approximately fifty feet of gravel wall lies above the water line. The pit has been used for some fifty years, but only recently (ten years) has the operation been intensified.
- Methods: The pit wall stands firm. Occasional shots along the wall loosens the aggregate. Two separate drag lines and winches are employed, one which supplies an overhead bin for road gravel, and another which supplies a bin for concrete gravel. The aggregate is remarkably clean and sharp for pit run material. Bar screens are used at the top of the bins. One high-lift is used for loading odd loads.
- Pit detail: Overburden averages from one to four feet of buff sandy silt. The main gravel body lies on high ground, but the entire acreage of Mr. Virgin is said to be underlain by gravel. Tests show that the gravel deposit is thirty five feet below the water level; the base of the deposit has not been determined. Thus the known thickness of the gravel bank is at least eighty feet.
- The aggregate runs fine, about 70% passing the $\frac{1}{4}$ " screen. Secondary lime is sufficiently scattered to hold the face of the wall solidly. However, the aggregate separates easily with probing or blasting. A small percentage of shale and clay-limonite are present.
- This deposit represents one of the largest and best of the area. If the gravel were sized, or better, washed and screened, the demand would be much heavier than it now is.

Virgin Pit cont'd.

Geology: The gravel deposit is remarkably uniform in texture, and in bedding. In the pit vicinity the aggregate becomes coarser eastward. Likewise, it is reported to be coarser downward, beneath water-level.

Maps by Leverett and Malott show a minor moraine at about the position of the pit. The cleanness of the aggregate points toward plentiful water in the deposition. The uniformity of bedding with horizontal position indicates terrace-like environment of deposition.

It is possible that stagnant ice was present in Bass Lake Basin when torrents from the east dropped their load of gravel in a temporary lake or channel. The deposit can scarcely be that of kame or esker. The problem of origin is vexing, because no trace of gravel can be found at the surface in any direction from the immediate section in which the pit is located.

Pit sieve analysis: *				%
Not passing the 2" screen	-----			3.46
" " " 1" "	-----			3.22
" " " $\frac{1}{2}$ " "	-----			5.22
" " " $\frac{1}{4}$ " "	-----			16.66
Passing the $\frac{1}{4}$ " "	-----			71.34

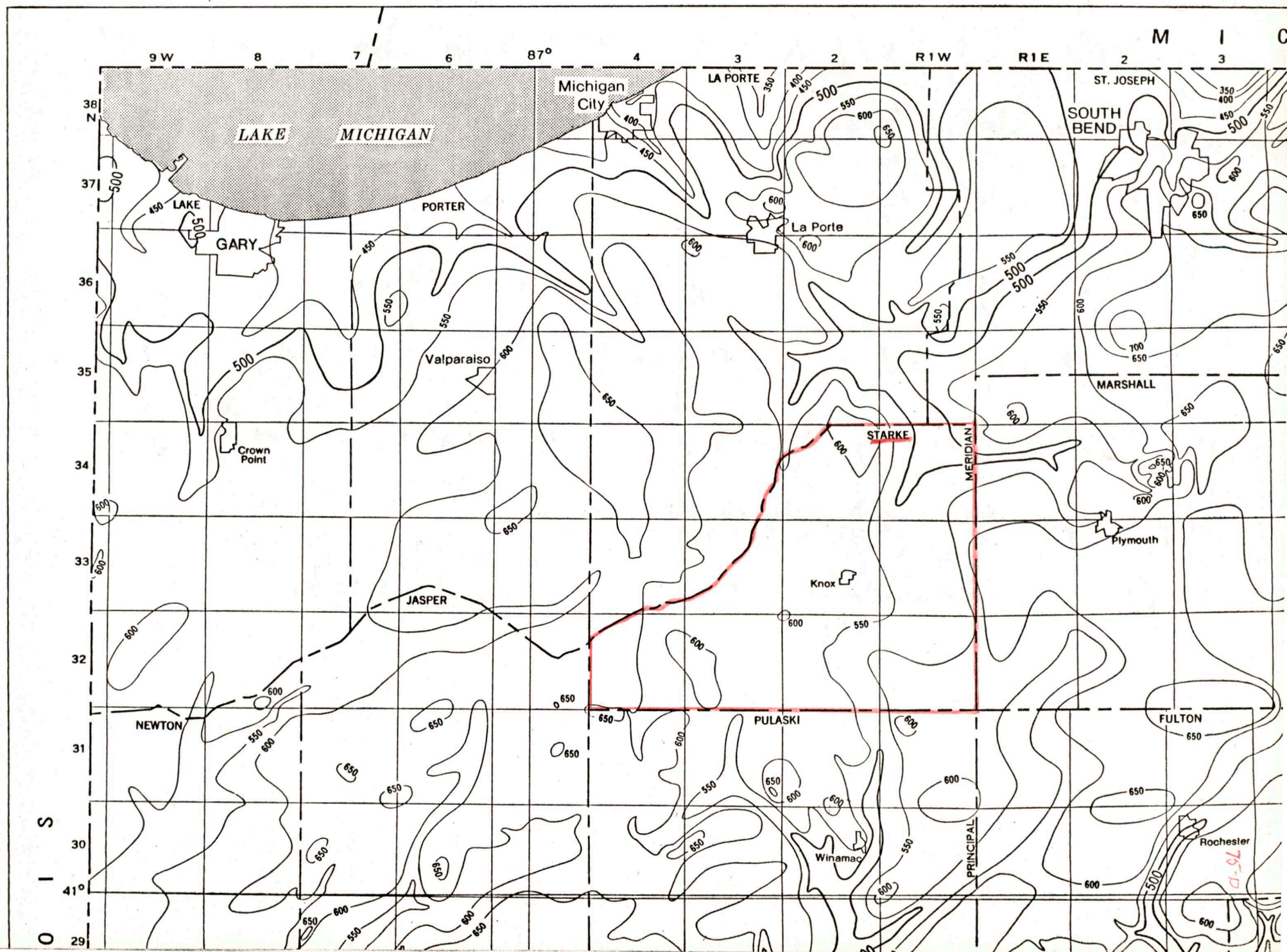
* gram scale employed.

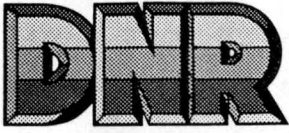
Sample: B 49 - 20. Taken from south wall of pit, 30 ft. wall
from floor of pit upward. Notebook page 1- 114
2- 49

C. L. Bieber

C.L. Bieber
Aug. 24, 1949

GEOLOGICAL SURVEY
JOHN B. PATTON, STATE GEOLOGIST





INDIANA DEPARTMENT OF NATURAL RESOURCES

PATRICK R. RALSTON, DIRECTOR

Geological Survey Division
611 North Walnut Grove
Bloomington, Indiana 47405
812-855-2687

August 29, 1991

Mr. Bob Ax
First Source Bank
P.O. Box 400
Hamlet, IN 46532

Mr. Ax:

I have pulled together the information I have for the Bass Lake area. It is not much.

The large map is a topographic map showing the types of sediments at the earth's surface. The site of interest is circled in blue. the letters Qgk indicate that the deposit was formed by direct contact with glacial ice. Commonly these types of deposits are variable with respect to the types of sediments they contain. Most range from cobble-sized clasts to muds.

I was able to find a description of the pit from 1949 (75-C). The description contains some information on clast size, and the thickness of the deposit. The clast size information have a wide range depending on where the sample was collected from the pit. Please do not rely on this data.

Other enclosures are:

75-D -- bedrock topography of the county

75-F -- unconsolidated deposit thickness of the county

If I can help further, please call me at 812-855-2687.

Sincerely,

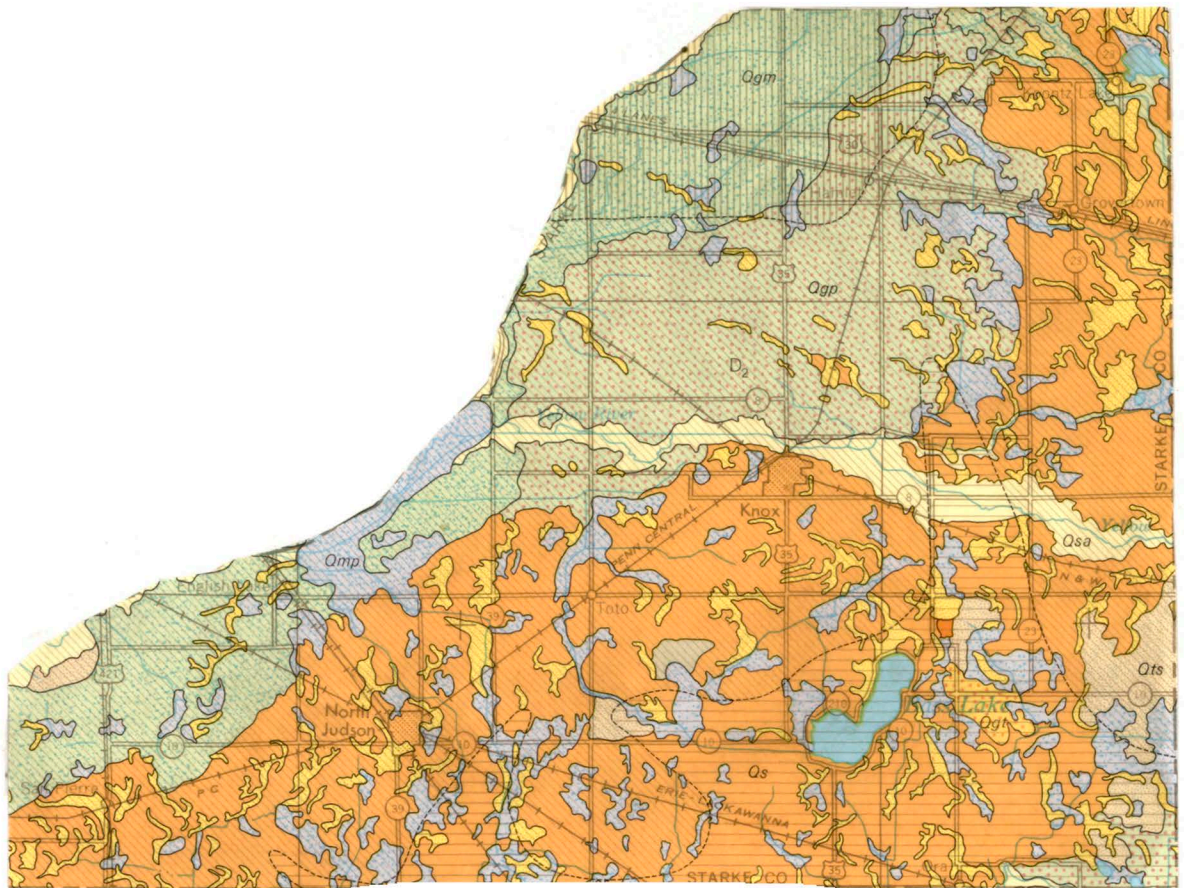
A handwritten signature in cursive script, appearing to read 'Todd Thompson', written in dark ink.

Todd Thompson, Geologist
Mineral Resources Section

TAT:ks

Enclosures

75-E



R4W

R3W

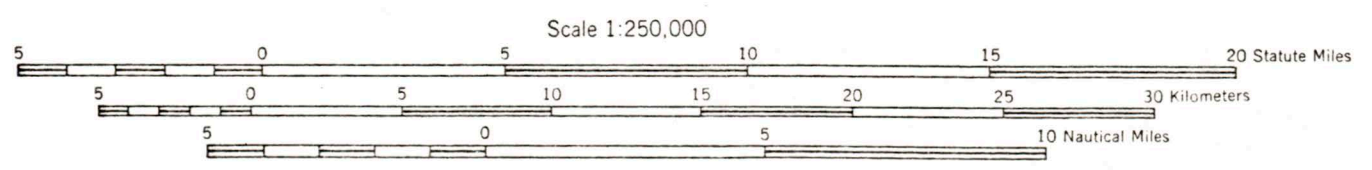
R2W

R1W

T 34 N

T 33 N

T 32 N



DEPARTMENT OF CONSERVATION
HARLEY G. HOOK, DIRECTOR

M I C H I G A N

