

SURVEY OF HIGHWAY CONSTRUCTION MATERIALS
IN THE TOWN OF TROY, ORLEANS COUNTY, VERMONT

Prepared by

Engineering Geology Section, Materials Division
Vermont Department of Highways

in cooperation with

United States Department of Transportation
Federal Highway Administration

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2. Professor D. P. Stewart of Miami University, Oxford, Ohio.
3. Professor C. G. Doll, Vermont State Geologist, University of Vermont, Burlington, Vermont.
4. United States Department of Commerce, Federal Highways Administration.

History

The Materials Survey Project was formed in 1957 by the Vermont Department of Highways with the assistance of the Federal Highway Administration. Its prime objective was to compile an inventory of highway construction materials in the State of Vermont. Originally, investigations for highway construction materials were conducted only as the immediate situation required and only limited areas were surveyed; thus, no over-all picture of material resources was available. Highway contractors or resident engineers were required to locate the materials for their respective projects and samples were tested by the Materials Division. The additional cost of exploration for construction materials was passed on to the State bringing about higher construction costs. The Materials Survey Project was established to eliminate or minimize this factor by enabling the State and the contractors to proceed with information on available material resources and to project cost estimates. Knowledge of locations of suitable material is an important factor in planning future highways.

The sources of construction materials are located by this Project through ground reconnaissance, study of maps and aerial photographs and geological and physiographic interpretation. Maps, data sheets and work sheets for reporting the findings of the Project are used to furnish information of particular use to the contractor or construction man. For maximum benefit, the maps, data sheets and this report should be studied together.

Enclosures

Included in this report are two surface-geology maps, one defining the location of tests on bedrock, the other defining the location of tests on granular materials. These maps are based on 15-minute or 7-1/2-minute quadrangles of the United States Geological Survey enlarged or reduced to 1:31250 or 1" = 2604'. Delineated on the Bedrock Map are the various rock formations and types in the township. This information was obtained from: Vermont Geological Survey Bulletins, Vermont State Geologist Reports, United States Geological Survey Bedrock Maps, Centennial Geological Map of Vermont, the Surficial Geologic Map of Vermont and other references.

The granular materials map shows areas covered by various types of glacial deposits (outwash, moraines, kames, kame terraces, eskers, etc.) by which potential sources of gravel and sand may be recognized. This information was obtained primarily from a survey conducted by Professor D. P. Stewart of Miami University, Oxford, Ohio, who mapped the glacial features of the State of Vermont during the summer months from 1956 to 1966. Further information is obtained from the Soil Survey (Reconnaissance) of Vermont (conducted by the Bureau of Chemistry and Soils of the United States Department of Agriculture), Vermont Geological Survey Bulletins, United States Geological Survey Quadrangles, aerial photographs and other sources. On both maps, the areas tested are represented by Identification Numbers. The number and location of tests taken in each area represented by an Identification

Number is determined by the nature of the material or its topographic feature.

Also included in this report are data sheets for both the Bedrock and Granular Materials Survey, which contain detailed information for each test conducted by the Project as well as information obtained from an active card file compiled and updated by the Engineering Geology Section of the Materials Division over a period of years. Transfer of information from the cards to the data sheets was made and the location of the deposits was plotted on the maps. However, some cards in the file were not used because of incomplete or unidentifiable information on the location of the deposit. Caution should be exercised wherever this information appears incomplete.

Work sheets, containing more detailed information and a field sketch of the area represented by the Identification Number, and laboratory reports are on file in the Materials Division of the Vermont Department of Highways.

LOCATION

The town of Troy is on the northwest side of Orleans County in northern Vermont. It is bounded on the west by the towns of Jay and Westfield, on the south by Lowell, on the east by Newport, and on the north by the Canadian Border. (See County and Town Outline Map of Vermont on following page.)

The eastern two-thirds of Troy lies within the Vermont Piedmont (a region of broad valleys and rounded hills). The northwestern third of town is mapped as being in the Green Mountain physiographic subdivision of the New England Upland, however the topography is not mountainous and resembles that of the Piedmont. Elevations range from just under 1500 feet at the summit of an unnamed mountain in the southeast corner of town, to less than 520 feet where the Missisquoi River crosses the Canadian Border.

Drainage is northward via Mineral Spring, Tamarack, Lilly, and Beetle Brooks and their tributaries into the Missisquoi River. Mud Creek flows northward across the northeast corner of town with many unnamed streams flowing east and west over the entire town.

SURVEY OF ROCK SOURCES

Procedure for Rock Survey

The method employed by the project in a survey of possible sources of rock for highway construction is divided into two main stages: office and field investigations.

The office investigation is conducted primarily during the winter months and comprises the mapping and description of rock types as indicated in the many reference sources, as indicated in the bibliography. These references differ considerably in dependability due to new developments and studies that have contributed to the obsolescence of a number of reports. In addition, the results of samples taken by other individuals are analyzed, and the location at which these samples were taken, is mapped when possible. As complete a correlation as possible is made of all the available information concerning the geology of the area under consideration.

The field investigation is begun by making a cursory survey of the entire town. The information obtained from this preliminary survey, as well as that assimilated in the office investigation, is used to determine the areas where sampling will be concentrated. When a promising source has been determined by rock type, volume of material, accessibility, and adequate exposure and relief, chip samples are taken with a hammer across the strike or trend of the rock, and are submitted to the Materials Division for abrasion testing by the Deval Method (AASHTO T-3) and the Los Angeles Method (AASHTO T-96). Samples taken by the chip method are often within the weathered zone of the outcrop and consequently may give a less satisfactory test result than fresh material deeper in the rock structure. When the rock is uniform, and the chip samples yield acceptable abrasion test results, the material source is included in this report as being satisfactory.

Discussion of Rock and Rock Sources

The information on the Rock Materials Map (Plate II) is simplified. (For a more detailed description of the respective rock formations, see the summary included in this report.) The summary shows that complex metamorphic rocks underlie the town.

The formations mapped as underlying Troy are from west to east: the Hazens Notch Schist, quartzite, and gneiss, which was not found due to low relief, dense woods, and a cover of till; the Belvidere Mountain Amphibolite and Greenstone Member of the Hazens Notch Formation, was mapped as a narrow band, but not found; the Ottawauechee Schist, quartzite, and graywacke; and the Stowe graywacke, phyllite and schist; ultramafic serpentinite; Moretown Member of the Missisquoi Formation, and the Stowe graywacke, phyllite, and schist.

Map Identification No. 3 yielded satisfactory material from a contact zone between the Ottawauechee and Stowe Formations. Ultramafic rocks (serpentinite, dunite, and peridotite) yielded satisfactory material at Map Identification Nos. 1, 4, and 5. Map Identification Nos. 2, 6, and 7 were mapped as being in the Moretown Member of the Missisquoi Formation; however, Map Identification No. 2 was a meta-volcanic and Map Identification No. 6 was in an ultramafic serpentinite mass. None of the rock areas had a quarry.

The sources are listed most favorable first: Map Identification Nos. 4, 5, 6, and 7.

SURVEY OF SAND AND GRAVEL SOURCES

Procedure for Sand and Gravel Survey

The method employed by the project in a survey of possible sources of sand and gravel for highway construction is divided into two main stages: office and field investigations.

The office investigation is conducted primarily during the winter months and comprises the mapping of potentially productive areas from various references. Of these references, the survey of glacial deposits mapped by Professor Stewart proves to be particularly helpful when used in conjunction with other references such as soil-type maps, aerial photographs, and United States Geological Survey Quadrangles. The last two are used in the recognition and location of physiographic features indicating glacial deposits, and in the study of drainage patterns. The locations of existing pits are mapped, as are the locations in which samples were taken by other individuals.

The field investigation is begun by making a cursory survey of the entire town. All pits, and any areas that show evidence of glacial or fluvial deposition are noted, and later investigated by obtaining samples of materials from pit faces and other exposed surfaces. Test holes in pit floors and extensions are dug with a backhoe to a depth of approximately 11 feet to obtain samples which are submitted to the Materials Division where they are tested for stone abrasion by the AASHTO T-4 Method, and sieved for gradation.

Discussion of Sand and Gravel Deposits

Results of this survey showed that granular materials in Troy suitable for highway and related construction purposes were deposited predominately in the northwestern part of town. Many of the areas mapped as possible sand or gravel sources proved to have material too fine, or they were just above the water table. Many town residents gain their livelihood from farming, and some of their more promising looking fields were planted in crops and testing was not allowed.

The most promising sources of Item 704.05, Gravel for Subbase, are listed in order of most favorable first: Map Identification Nos. 9, 6, 29, and 13. All these areas have pits, however No. 13 did not have a passing sample, the wear runs high, but is mentioned because the town was using the material and had high praises for it. The gravel pits in town are nearing depletion.

There were many areas with acceptable Item 703.03, Sand Borrow and Cushion, and are listed with most favorable first: Map Identification Nos. 29, 9, 11, 15, 4, 7, 1, 35 and 32; all except numbers 4, 7, and 1 are pits.

SUMMARY OF ROCK FORMATIONS IN THE TOWN OF TROY

Hazens Notch Formation: Interbedded carbonaceous and noncarbonaceous quartz-sericite-albite-chlorite schist; grades to quartzite and gneiss.

Hazens Notch Formation (Belvidere Mountain amphibolite member): Coarse-to fine-grained hornblende-epidote-albite rock; grades to epidote-chlorite-actinolite-albite greenstone where less metamorphosed.

Missisquoi Formation (Coburn Hill volcanic member): Actinolite-epidote-chlorite-albite greenstone and hornblende - albite-epidote amphibolite; includes pillow lavas.

Missisquoi Formation (Moretown member): Quartzite and quartz-plagioclase granulite, in layers one-eighth to several inches thick, separated by "pinstripe" partings that contain muscovite, chlorite, epidote, biotite, and locally garnet; also greenish quartz-sericite-chlorite phyllite and schist, and minor carbonaceous phyllite.

Ottawaquechee Formation: Black carbonaceous phyllite or schist containing interbeds of massive quartzite commonly criss-crossed by veins of white quartz; quartzite is dark gray and carbonaceous, light gray, or white; also includes light green quartz-sericite-chlorite phyllite or schist and sericitic quartzite; beds of phyllitic graywacke and feldspar granule conglomerate are north of Lamoille River.

Stowe Formation: Quartz-sericite (muscovite-paragonite)-chlorite phyllite and schist; porphyroblasts of albite, garnet, chloritoid, or kyanite are common locally; includes phyllitic graywacke north of Lamoille River. Schist contains abundant segregations of granular white quartz.

Ultramafic Rocks: Dunite, peridotite, and serpentinite. Serpentinite, carbonate rock, talc-carbonate rock and steatite.

GLOSSARY OF SELECTED GEOLOGIC TERMS

- Actinolite: A variety of amphibole occurring in greenish masses or bladed crystals.
- Albite: The light-colored, sodium end member of the plagioclase feldspar group, which is found in alkali rocks.
- Amphibolite: A green-to-black, somewhat schistose metamorphic rock containing varying amounts of amphibole (i.e., tremolite, actinolite, hornblende, or arfvedsonite).
- Argillaceous: Containing or consisting of clay. The term is commonly used with rock names to indicate the presence of clay; as, argillaceous limestone, argillaceous sandstone.
- Bedding: The arrangement of rock or granular material in layers.
- Bedrock: The more or less solid, undisturbed rock at the surface, or beneath deposits of soil.
- Bedrock Control: Land features which show bedrock on, or close to the surface; also used to determine part of the topography.
- Biotite: A silicate mineral commonly known as black mica.
- Calcareous: Consisting of, or containing from 10-to-50-percent of calcium carbonate (CaCO_3).
- Chlorite: A general group of green hydrous silicates of magnesium and iron, which may contain aluminum.
- Chloritoid: A brittle member of the mica group.
- Drainage: The manner by which water moves on or beneath the earth's surface, in streams, rivers, brooks, and channels.
- Drift: A deposit of earth, sand, gravel and boulders, carried by glaciers (glacial drift), or by water flowing from glaciers (fluvio-glacial drift). Large areas of North America and Europe are drift-covered in higher latitudes.
- Dunite: An ultramafic igneous rock with granitic texture, composed of olivine and a little chromite or spinel.
- Epidote: A calcium aluminum iron silicate found in rocks as grains or formless masses. It is usually some shade of green, pistachio-green, or yellowish-green.
- Fluvial: Pertaining to streams.
- Glacio-Fluvial: A term used to denote formation by, or relation to streams within, upon, or emerging from glacial ice.
- Glacio-Lacustrine: A term used to denote formation by, or pertaining to deposition in quiet waters of glacial lakes.

Graywacke: A term covering dark, hard sandstone with angular grains of quartz, feldspar and rock fragments in a fine, compact matrix of micas, clay minerals and chlorite.

Hornblende: A black, dark green or brown amphibole usually forming prismatic masses in igneous and metamorphic rocks.

Interbedded: Occurring between beds, or lying adjacent and parallel to other beds of a different nature.

Kame: A conical mound or hill of often poorly stratified drift deposited in contact with glacial ice by streams flowing in or on the ice.

Kame Terrace: Stratified sands and gravels deposited by water flowing between a glacier and an adjacent valley wall.

Kamic: Relating to stratified drift deposited by streams flowing in or on the ice at the sides or terminus of a glacier.

Lamina: A thin layer of stratified rock, 1 cm. or less thick.

Olivine: An olive-to grayish-green or brown orthosilicate of the chrysolite group having a conchoidal fracture. Metamorphism alters olivine to serpentine and iron oxide.

Outcrop: The part of a body of rock that appears bare and exposed at the surface of the ground.

Outwash: Stratified sands and gravels deposited by meltwater flowing from the face of the glacier.

Peridotite: A low-silica, granitic-textured, igneous rock composed of olivine and some pyroxene, amphibole, and mica. Feldspar can only be present in minor amounts. Peridotite characteristically alters to the dark green rock, serpentinite.

Phyllite: A fine-grained, foliated, metamorphic rock intermediate between the mica schists and slates into which it may grade. The foliation is caused by large amounts of potash mica (sericite) which gives the rock a distinctive silvery appearance.

Plagioclase: The common rock-forming feldspar of the albite-anorthite isomorphous series.

Porphyroblasts: Large crystals formed in the fine-grained matrix of a metamorphic rock by heat, pressure, and solutions. The crystals form later than the parent rock.

Quartzite: The compact, metamorphic equivalent of sandstone composed of quartz grains so firmly bonded that fracture occurs across the grains instead of around them.

Relief: The term used to designate the difference in elevation between the summits and lowlands of a particular region.

Scarp: A steep straight slope of any height.

Schist: A crystalline rock with a secondary foliation or lamination based on parallelism of platy or needle-like grains. The name refers to the tendency of the rock to split along the foliation.

Sediments: All material deposited from water (streams, lakes or seas), wind or ice.

Sericite: A mineral very similar to muscovite mica, occurring as small flakes and scales which often give metamorphic rocks a pearly luster on smooth surface.

Serpentinite: A metamorphic rock composed of serpentine which is derived from the alteration of magnesium-rich igneous rocks.

Shale: A term for lithified muds, clays and silts that tend to split into thin sheets along the bedding planes or along cleavage planes. Shale differs from mudstone, claystone and siltstone by having the pronounced tendency to split (fissility).

Slate: A homogeneous metamorphic rock, so fine-grained that no mineral grains can be seen. Slate splits with a foliation so perfect, that it yields slabs having plane surfaces almost as smooth as the cleavage planes of minerals; hence, this variety of foliation is termed slaty cleavage.

Structural: Of, pertaining to, or resulting from, the effects of folding or faulting of the earth's crust; tectonic; as structural ridges or valleys.

Till: An unsorted, unstratified, unconsolidated, heterogeneous mixture of clay, silt, sand, gravel and boulders deposited directly by glacial ice.

Ultramafic: Low-silica igneous rocks having virtually no quartz and feldspar, but having a correspondingly high amount of iron, magnesium and calcium. These rocks may occur as individual bodies, or as segregations in larger igneous masses.

Water Table: The upper surface of a zone of saturation, except where the surface is formed by an impermeable body.

Weathered: Showing the effects of exposure to the atmosphere.

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PARTIAL SPECIFICATIONS FOR HIGHWAY CONSTRUCTION MATERIALS

Listed below are partial specifications for Highway Construction Materials as they apply to this report at date of publication. For a complete list of specifications see Standard Specifications for Highway and Bridge Construction, approved and adopted by the Vermont Department of Highways, January, 1972.

DIVISION 700 - MATERIALS

703.03 SAND BORROW AND CUSHION. Sand borrow shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and shall meet the requirements of the following table:

TABLE 703.03A - SAND BORROW AND CUSHION

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	SAND PORTION
2"	100	
1½"	90-100	
½"	70-100	
No. 4	60-100	100
No. 100		0- 30
No. 200		0- 12

703.05 GRANULAR BORROW. Granular borrow shall be obtained from approved sources, consisting of satisfactorily graded, free draining, hard, durable stone and coarse sand reasonably free from loam, silt, clay, or organic material.

The Granular Borrow shall meet the requirements of the following table:

TABLE 703.05A - GRANULAR BORROW

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	SAND PORTION
No. 4	20-100	100
No. 200		0- 15

The maximum size stone particles of the Granular Borrow shall not exceed 2/3 of the thickness of the layer being spread.

704.05 GRAVEL FOR SUB-BASE. Gravel for Sub-base shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and shall meet the following requirements:

- (a) Grading. The gravel shall meet the requirements of the following table:

TABLE 704.05A - GRAVEL FOR SUB-BASE

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	SAND PORTION
No. 4	20-60	100
No. 100		0- 18
No. 200		0- 8

The stone portion of the gravel shall be uniformly graded from coarse to fine, and the maximum size stone particles shall not exceed 2/3 the thickness of the layer being placed.

- (b) Percent of Wear. The percent of wear of the gravel shall be not more than 25 when tested in accordance with AASHTO T-4, or more than 40 when tested in accordance with AASHTO T-96.

704.06 CRUSHED STONE FOR SUB-BASE. Crushed stone for sub-base shall consist of clean, hard, crushed stone, uniformly graded, reasonably free from dirt, deleterious material, pieces which are structurally weak and shall meet the following requirements:

- (a) Source. This material shall be obtained from approved sources and the area from which this material is obtained shall be stripped and cleaned before blasting.
- (b) Grading. This material shall meet the requirements of the following table:

TABLE 704.06A - CRUSHED STONE FOR SUB-BASE

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	
4½"		100
4"		90-100
1½"		25- 50
No. 4		0- 15

- (c) Percent of Wear. The percent of wear of the parent rock shall be not more than 8 when tested in accordance with AASHTO T-3, or the crushed stone a percent of wear of not more than 40 when tested in accordance with AASHTO T-96.

- (d) Thin and Elongated Pieces. Not more than 30 percent, by weight, of thin and elongated pieces will be permitted.

Thin and elongated pieces will be determined on the material coarser than the No. 4 sieve.

- (e) Filler. The filler shall be obtained from approved sources and shall meet the requirements as set up for Sand Cushion, Subsection 703.03.
- (f) Leveling Material. The leveling material shall be obtained from approved sources and may be either crushed gravel or stone screening produced by the crushing process. The material shall consist of hard durable particles, reasonably free from silt, loam, clay or organic matter.

This material shall meet the requirements of the following table:

TABLE 704.06B - LEVELING MATERIAL

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	
3/4"	100	
1/2"	70-100	
No. 4	50- 90	
No. 100	0- 20	
No. 200	0- 10	

704.07 CRUSHED GRAVEL FOR SUB-BASE. Crushed gravel for sub-base shall consist of material reasonably free from silt, loam, clay or organic matter. It shall be obtained from approved sources and shall meet the following requirements:

- (a) Grading. The crushed gravel shall be uniformly graded from coarse to fine and shall meet the requirements of the following table:

TABLE 704.07A - CRUSHED GRAVEL FOR SUB-BASE

GRADING	Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
		TOTAL SAMPLE	SAND PORTION
COARSE	4"	100	
	No. 4	25- 50	100
	No. 100		0- 20
	No. 200		0- 12
FINE	2"	100	
	1 1/2"	90-100	
	No. 4	30- 60	100
	No. 100		0- 20
	No. 200		0- 12

- (b) Percent of Wear. The percent of wear of the parent gravel shall be not more than 20 when tested in accordance with AASHTO T-4, or the crushed gravel a percent of wear of not more than 35 when tested in accordance with AASHTO T-96.
- (c) Fractured Faces. At least 30 percent, by weight, of the stone content shall have at least one fractured face.

Fractured faces will be determined on the material coarser than the No. 4 sieve.

704.09 DENSE GRADED CRUSHED STONE FOR SUB-BASE. Dense graded crushed stone for sub-base shall consist of clean, hard, crushed stone, uniformly graded, reasonably free from dirt, deleterious material and pieces which are structurally weak, and shall meet the following requirements:

- (a) Source. This material shall be obtained from approved sources and the area from which this material is obtained shall be stripped and cleaned before blasting.
- (b) Grading. This material shall meet the requirements of the following table:

TABLE 704.09A - DENSE GRADED CRUSHED STONE FOR SUB-BASE

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves TOTAL SAMPLE
3½"	100
3"	90-100
2"	75-100
1"	50- 80
½"	30- 60
No. 4	15- 40
No. 200	0- 10

- (c) Percent of Wear. The percent of wear of the parent rock shall be not more than 8 when tested in accordance with AASHTO T-3, or the crushed stone a percent of wear of not more than 40 when tested in accordance with AASHTO T-96.
- (d) Thin and Elongated Pieces. Not more than 30 percent, by weight, of thin or elongated pieces will be permitted.

Thin and elongated pieces will be determined on the material coarser than the No. 4 sieve.

704.10 GRAVEL BACKFILL FOR SLOPE STABILIZATION. Gravel backfill for slope stabilization shall be obtained from approved sources, consisting of satisfactorily graded, free draining, hard, durable stone and coarse sand reasonably free from loam,

silt, clay, and organic material.

The gravel backfill shall meet the requirements of the following table:

TABLE 704.10A - GRAVEL BACKFILL FOR SLOPE STABILIZATION

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	SAND PORTION
No. 4	20-50	100
No. 100		0- 20
No. 200		0- 10

The stone portion of the gravel backfill shall be uniformly graded from coarse to fine, and the maximum size stone particles shall not exceed 2/3 the thickness of the layer being placed.

704.11 GRANULAR BACKFILL FOR STRUCTURES. Granular backfill for structures shall be obtained from approved sources, consisting of satisfactorily graded, free draining granular material reasonably free from loam, silt, clay, and organic material.

The granular backfill shall meet the requirements of the following table:

TABLE 704.11A - GRANULAR BACKFILL FOR STRUCTURES

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	TOTAL SAMPLE	SAND PORTION
3"	100	
2½"	90-100	
No. 4	50-100	100
No. 100		0- 18
No. 200		0- 8

TABLE I

TROY GRANULAR DATA SHEET NO. 1

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
1	1	1975	1-11	0-1	No	100	100	100	96	31	13	Granular Borrow (Sand)	Owner: Harvey Dunn. Area is large, low-knolled field, bounded on three sides by trees and fence, and planted half in corn and half in meadow. It is located 0.18 mile northwest of Town Highway No. 6 via field drive, and 0.04 mile northeast of Town Highway No. 6 junction with Town Highway No. 5. Test No. 1 was near gate in southern-most corner of field. Material was: 1' - 5', sand and fine sand; 5' - 11', pebbly sand; bottoms in pebbly sand.	
	2	1975	1-10	0-1	No	100	100	100	86	34	9	Granular Borrow (Sand)	Test No. 2 was in small slash-strewn pasture opening on southwest edge of field. Material was: 1' - 6', fine sand; 6' - 10', fine gravel; bottoms in pebbly sand.	
	3	1975	1-7	0-1	No	100	100	94	83	8	3	Sand	Test No. 3 was 250 feet northwest of test No. 2; at edge of down slope. Material was: 1' - 5', fine gravel and pebbly sand; 5' - 7', fine sand; bottoms in fine sand.	
	4	1975	1-10	0-1	No	100	100	100	89	31	11	Granular Borrow (Sand)	Test No. 4 was at intersection of fields and pasture, 260 feet south of Test No. 2. Material was: 1' - 2', sand; 2' - 4', pebbly sand; 4' - 7', fine	

TABLE I

TROY GRANULAR DATA SHEET NO. 2

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	5	1975	1-5	0-1	No	100	100	100	90	18	6		Sand	gravel; 7' - 8', sand; 8' - 10', fine sand; bottoms in fine sand. Test No. 5 was on fence line, 600 feet northeast of Test No. 2. Material was: 1' - 4', pebbly sand; 4' - 5', fine sand; 5' - 10', fine sand (not sampled).
2	1	1975	1-8	0-1	Yes	100	98	90	77	11	3		Sand	Owner: Harvey Dunn. Area is large fenced-in meadow with pasture on west and south sides. There is 70 x 65 foot pit nearly surrounded by trees, in northwest corner of pasture. Pit is 0.20 mile northwest of Town Highway No. 6 and 0.04 mile northeast of Town Highway No. 5 junction with Town Highway No. 6. Test No. 1 was in southwest face of pit. Material was: 1' - 4', fine gravel; 4' - 5', pebbly sand; 5' - 8', sand and fine sand; bottoms in sand.
	2	1975	1-6	0-1	Yes	100	100	100	90	11	4		Sand	Test No. 2 was in eastern face of pit. Material was: 1' - 2', fine gravel; 2' - 3', pebbly sand; 3' - 6', sand; bottoms in sloughed material.

TABLE I

TROY GRANULAR DATA SHEET NO. 3

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3	1975	1-10	0-1	No	100	100	100	96	44	11	Granular Borrow (Sand)	Test No. 3 was in eastern edge of meadow, 0.12 mile northwest of Town Highway No. 6. Material was: 1' - 8', fine sand; 8' - 10' pebbly sand; bottoms in pebbly sand.	
	4	1975	0-10	---	No	100	100	100	100	74	20	---	Test No. 4 was in pit floor, 5 feet west of test No. 2. Material was: 0' - 3', pebbly sand; 3' - 5', sand; 5' - 10', fine sand with silt seams; bottoms in silty sand.	
	5	1975	1-10	0-1	No	100	100	100	98	61	21	---	Test No. 5 was 120 feet southwest of access gate near fence line. Material was: 1' - 9', silty sand; 9' - 10', fine gravel; bottoms in fine gravel.	
	6	1975	1-10	0-1	No	100	100	100	98	78	67	---	Test No. 6 was at edge of pasture, 360 feet west of Test No. 5. Material was: 1' - 3', fine sand; 3' - 7', sand; 7' - 10', fine sand; bottoms in fine sand.	
	7	1975	1-10	0-1	No	100	100	100	99	53	13	Granular Borrow (Sand)	Test No. 7 was at corner of meadow, 300 feet southwest of test No. 5. Material was: 1' - 3', fine sand; 3' - 4', pebbly sand; 4' - 5', fine sand; 5' - 6', sandy fine gravel; 6' - 10',	

TABLE I

TROY GRANULAR DATA SHEET NO. 4

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	8	1975	0.5 - 9	0-0.5	No	100	100	92	82	43	23	---	pebbly sand; bottoms in pebbly sand. Test No. 8 was at south edge of pasture, 210 feet southwest of fence line. Material was: 0.5' - 4', fine gravel; 4' - 5', sand; 5' - 9', fine sand; bottoms in fine sand.	
	9	1975	1-9	0-1	No	100	100	100	100	62	30	---	Test No. 9 was on fence line; 330 feet east of Test No. 7. Material was: 1' - 4.5', fine sand; 4.5' - 5', gravel; 5' - 9', fine sand; bottoms in fine sand.	
3	1	1975	0.5-7.5	0-0.5	Yes	100	100	92	75	21	8	Sand	Owner: Merton Thayer. Area is overgrown, 90 x 70 foot pit on north edge of flat corn field. Field and pit are bordered by wooded down slopes. Pit is located 280 feet north of Town Highway No. 5, and 0.62 mile east of Town Highway No. 7 junction with Town Highway No. 5. Test No. 1 was in west face of small overgrown pit. Material was: 0.5' - 3', fine gravel with 3-inch silt seams; 3' - 5', pebbly sand; 5' - 6.5', sand; 6.5' - 7.5', fine sand; bottoms in fine sand.	

TABLE I

TROY GRANULAR DATA SHEET NO. 5

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	0.5-5	0-0.5	No	100	100	94	85	16	7		Sand	Test No. 2 was in cornfield, 50 feet north of Town Highway No. 5. Material was: 0.5' - 2', pebbly sand; 2' - 4', sand; 4' - 5', fine sand; bottoms in fine sand.
4	1	1975	0.5-6	0-0.5	No	100	100	100	90	13	5		Sand	Owner: Dr. Durward Starr. Area is large, multi-knolled, irregular-shaped field, surrounded by woods. Field slopes down on all sides and has small, heavily overgrown diggings on northern edge. Field is located 0.24 mile northeast of Town Highway No. 10 via field drive, and 0.31 mile southeast of Vermont Route 105 junction with Town Highway No. 10. Test No. 1 was in northwest corner of field, 50 feet from access. Material was: 0.5' - 3', fine sand; 3' - 4.5', sand; 4.5' - 6', pebbly sand; bottoms in pebbly sand.
	2	1975	1-6	0-1	No	100	100	94	85	6	2		Sand	Test No. 2 was in southwest corner of field, 270 feet southeast of Test No. 1. Material was: 1' - 2', pebbly sand; 2' - 4', sand; 4' - 6', fine sand; bottoms in fine sand.

TABLE I

TROY GRANULAR DATA SHEET NO. 6

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3	1975	0.5-6.5	0-0.5	No	100	100	100	100	34	5	Granular Borrow (Sand)	Test No. 3 was in southeast corner of field, 300 feet southeast of Test No. 4. Material was: 0.5' - 6.5', fine sand; bottoms in fine sand.	
	4	1975	1-6	0-1	No	100	100	100	94	5	1	Sand	Test No. 4 was in northeast corner of field, 0.14 mile northeast of Test No. 1. Material was: 1' - 3', pebbly sand; 3' - 5', sand; 5' - 6', fine sand; bottoms in fine sand.	
5	1	1975	1-6.5	0-1	Yes	100	100	100	92	11	5	Sand	Owner: Wallace Smith. Area is small, tree-covered diggings on southwest edge of high terrace meadow. Field had gentle roll and was surrounded by trees and fence. It is 0.26 mile east of Town Highway No. 13 via field and woods road, and 0.35 mile north of Town Highway No. 13 junction with Town Highway No. 15. Test No. 1 was in old diggings, 125 feet southwest of field access. Material was: 1' - 3.5', pebbly sand; 3.5' - 5.5', sand; 5.5' - 6.5', fine sand; bottoms in fine sand.	

TABLE I

TROY GRANULAR DATA SHEET NO. 7

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	1-5.5	0-1	No	100	100	100	99	47	13		Granular Borrow	Test No. 2 was in meadow, 150 feet northeast of Test No. 1. Material was: 1' - 5.5', fine sand; bottoms in fine sand.
6	1A	1975	2-16	0-2	Yes	100	100	100	100	81	49		---	Owner: Wallace Smith. Area is large, multi-faced pit with sloughings on some faces and water on lower pit floor. Pit may be nearly depleted, with Missisquoi River and a swamp on south and west sides, and Town Highway No. 13 and owner's barn to the east. Pit is 0.16 mile southwest of Town Highway No. 13, and 0.34 mile north of Town Highway No. 13 junction with Town Highway No. 15. Test No. 1A was in high face of northwestern part of pit. Material was: 2' - 16', interbedded silty fine sand and silt seams; bottoms in Test No. 1B.
	1B	1975	16-32	---	Yes	80	74	53	35	14	8	27.9%	Granular Borrow (Gravel)	Test No. 1B was below Test No. 1A. Material was: 16' - 22', cobbly, clean gravel; 22' - 28', fine gravel; 28' - 32', pebbly fine gravel; 32' - 39', sloughed material (not sampled).

TABLE I .

TROY GRANULAR DATA SHEET NO. 8

Lap Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	1-10	0-1	Yes	100	100	100	97	3	2		Sand	Test No. 2 was from low face in southeast corner of pit, 30 feet east of low ramp. Material was: 1' - 10', medium to pebbly sand.
	3	1975	1-8	0-1	Yes	97	97	83	76	5	3	22.8%	Sand	Test No. 3 was in southern pit face, 30 feet west of low ramp. Material was: 1' - 3', clean fine gravel; 3' - 8', sand with some pebbles.
	4	1975	4-20	0-4	Yes	100	100	100	99.4	86.4	58.7		A-4 Silt	Test No. 4 was in face at northern corner of pit. Material was: 4' - 8', fine sand; 8' - 12', silt-to-clay; 12' - 20', interbedded silt, silty fine sand, angular stone fragments, and silt-to-clay; 20' - 35', sloughed material (not sampled).
	5	1975	1-28	0-1	Yes	95	81	61	42	19	9	22.4%	Granular Borrow (Gravel)	Test No. 5 was in high east face of pit, south of small barn. Material was: 1' - 18', interbeds of cobbly and fine-to-pebbly gravel; 18' - 18.5', silty fine sand; 18.5' - 28', gravel; bottoms in sloughed material.
	6	1975	12-22	0-2	Yes	100	100	100	100	33	13		Granular Borrow (Sand)	Test No. 6 was in high south-east face of pit. Material was: 2' - 12', silt and sand seams (inaccessible, not sampled); 12' - 22', sand with some silt seams; bottoms in sloughed material.

TABLE I

TROY GRANULAR DATA SHEET NO. 10

Op ment. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	1-6	0-1	No	100	100	98	94	17	3		Sand	<p>pasture, surrounded by fence, and has woods on three sides. Field is located southwest of Town Highway No.10, and 0.72 mile northwest of Town Highway No. 11 junction with Town Highway No. 10.</p> <p>Test No. 1 was in southern end of pasture, 190 feet west of Town Highway No. 10. Material was: 2.5' - 6', moist sand; bottoms in sand.</p> <p>Test No. 2 was 280 feet northwest of Test No. 1. Material was: 1' - 3.5', sand; 3.5' - 6', fine sand; bottoms in fine sand.</p>
8	1	1975	1-5	0-1	No	100	100	100	100	77	35		---	<p>Owner: Robert Starr, Sr. Area is large flat corn field, bounded by woods on three sides. Field is located southwest of Town Highway No. 10 and 0.33 mile northwest of Town Highway No. 11 junction with Town Highway No. 10.</p> <p>Test No. 1 was in southeast end of corn field, 70 feet west of Town Highway No. 10. Material was: 1' - 5', sandy silt; bottoms in sandy silt.</p>
	2	1975	1-5	0-1	No	100	100	100	100	78	40		---	<p>Test No. 2 was 0.14 mile north of Test No. 1. Material was: 1' - 5', sandy silt; bottoms in sandy silt.</p>

TABLE I

TROY GRANULAR DATA SHEET NO. 11

ap dent. o.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
9	1	1975	2-12	0-2	Yes	100	100	100	92	35	18		---	Owner: Robert Starr, Sr. Formerly: George & Hazel Starr. Area is multi-level and multi-faced pit surrounded by soft woods. Southern extension slopes down 45° to Missisquoi River, while extensions averaging 40 to 80 feet exist to eastern and western property lines. Pit is irregular and hard to describe, as there was topsoil, strippings, and sloughed material on some faces, floors and extensions. Pit is 0.10 mile east of Town Highway No. 11 via sloping field and woods road. Test No. 1 was in southern face of upper northern pit lobe. Material was: 2' - 5', fine sand; 5' - 10', sandy silt; 10' - 12', sandy silt with some stones; bottoms in sloughed material.
	2	1975	3.5-12	0-3.5	Yes	100	100	100	100	8	3		Sand	Test No. 2 was in upper north- west face of pit. Material was: 3.5' - 12', sand; bottoms in sloughed material.
	3A	1975	10-22	0-10	Yes	100	100	95	85	12	5		Sand	Test No. 3A was in western pit face. Material was: 10' - 12', fine sand; 12' - 20', sand; 20' - 22', pebbly sand or fine gravel; bottoms in Test No. 3B.

TABLE I

TROY GRANULAR DATA SHEET NO. 12

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3B	1975	22-40	---	Yes	90	80	50	25	17	10	15.6%	Granular Borrow (Gravel)	Test No. 3B was below Test No. 3A. Material was: 22' - 25', fine gravel; 25' - 40', gravel (orange-colored) with layers of uniform-sized 1/2" - 2" stones; bottoms in Test No. 3C.
	3C	1975	40-52	---	Yes	96	85	69	56	23	11	16.4%	Granular Borrow (Gravel)	Test No. 3C was below Test No. 3B. Material was: 40' - 45', sandy gravel; 45' - 47', uniform-sized (2"-3") stones; 47' - 52', gravel and pebbly sand; bottoms in sloughed material.
	4	1975	2-12	0-2	Yes	100	100	100	96	21	9		Sand	Test No. 4 was in northern face of pit (below "Y" in road). Material was: 2' - 12', sand; bottoms in sloughed material.
	5A	1975	12-26	0-12	Yes	100	100	98	92	8	2		Sand	Test No. 5A was in high southwest face of pit, 100 feet south of Test No. 3. Material was: 12' - 26', sand; bottoms in Test No. 5B.
	5B	1975	26-47	---	Yes	96	96	68	39	8	5	19.0%	Gravel	Test No. 5B was below Test No. 5A. Material was: 26' - 47', fine gravel (with rusty orange-coated, uniform, 1/2" - 1-1/2" stones); bottoms in Test No. 5C.

TABLE I

TROY GRANULAR DATA SHEET NO. 13

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	5C	1975	47-64	---	Yes	89	80	62	40	15	9	14.8%	Granular Borrow (Gravel)	Test No. 5C was below Test No. 5B. Material was: 47' - 53', fine gravel; 53' - 56', layer of silt-to-clay and gravel; 56' - 63', fine gravel; bottoms in sloughed material.
	6	1975	1-21	0-1	Yes	100	100	100	97	12	4		Sand	Test No. 6 was in southwest face of upper southwest lobe of pit. Material was: 1' - 21', clean sharp sand; bottoms in sloughed material.
	7A	1975	1-15	0-1	Yes	100	100	95	78	22	12		Sand	Test No. 7A was in upper east pit face. Material was: 1' - 6', pebbly sand; 6' - 8', layer of 1/4" to 1/2" stones; 8' - 15', pebbly sand and sand seams; bottoms in Test No. 7B.
	7B	1975	15-28	---	Yes	100	100	92	65	11	7		Sand	Test No. 7B was below Test No. 7A. Material was: 15' - 20', cemented, pebbly fine gravel; 20' - 25', pebbly sand and sand layers; 25' - 28', sand; 28' - 30', sloughed material.
	8	1975	1-31	0-1	Yes	100	100	98	91	7	3		Sand	Test No. 8 was in south face of pit, 190 feet west of Test No. 7. Material was: 1' - 5', silty fine sand; 5' - 28', coarse, clean, dark sand; 28' - 31', gravelly sand; bottoms in sloughed material.

TABLE I

TROY GRANULAR DATA SHEET NO. 14

Sample Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	9A	1975	4-20	0-4	Yes	100	97	73	47	8	5	16.2%	Gravel	Test No. 9A was in high, upper south face of pit. Material was: 4' - 20', clean, well-graded gravel (caves easily); bottoms in Test No. 9B.
	9B	1975	20-35	---	Yes	92	82	56	37	7	4	16.2%	Gravel	Test No. 9B was below Test No. 9A. Material was: 20' - 35', gravel (caves easily); 35' - 70', sloughed material which caves too much to sample.
	10A	1975	1-20	0-1	Yes	100	100	100	90	12	3		Sand	Test No. 10A was in north-east face of pit. Material was: 1' - 3', fine gravel; 3' - 19', sand; 19' - 20', pebbly sand; bottoms in Test No. 10B.
	10B	1975	20-40	---	Yes	100	100	100	91	16	6		Sand	Test No. 10B was below Test No. 10A. Material was: 20' - 22', pebbly sand; 22' - 40', sand; bottoms in sand.
	11	1975	0-10	---	Yes	92	88	67	43	8	6	21.8%	Gravel	Test No. 11 was in southern end of pit floor. Material was: 0'-10', gravel; bottoms in gravel.
	12	1975	0.5-10	0-0.5	Yes	100	100	100	99	11	5		Sand	Test No. 12 was in pit floor, 135 feet east of Test No. 11. Material was: 0.5' - 10', sand; bottoms in sand.

TABLE I

TROY GRANULAR DATA SHEET NO. 15

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	13	1975	2-10	0-2	Yes	100	100	100	94	19	7		Sand	Test No. 13 was in lower pit floor, 40 feet south of Test No. 4. Material was: 2' - 10', fine sand; bottoms in fine sand.
	14	1975	0-10	---	Yes	100	100	100	100	13	4		Sand	Test No. 14 was in upper pit floor, 15 feet north of Test No. 1. Material was: 0' - 10', sand; bottoms in sand.
	15	1975	1-8	0-1	Yes	100	100	100	100	42	14		Granular Borrow (Sand)	Test No. 15 was on slope, 70 feet east of Test No. 10. Material was: 1' - 8', fine sand; bottoms in fine sand.
	16	1975	0-6	---	Yes	100	100	98	92	60	26		---	Test No. 16 was on small wooded ridge, 130 feet east of Test No. 7. Material was: 0' - 6', fine sand; bottoms on ledge.
10	-----				NO	S A M P L E S T A K E N								Owner: C. A. McLelland. Formerly: Colburn Property. Area is a depleted, old, overgrown pit, with garden and corn plated on wedge-shaped extension. Town Highway No. 13 parallels extension on western side, and woods slope down to Missisquoi River on the east-southeast. Owner could not be contacted

TABLE I

TROY GRANULAR DATA SHEET NO. 16

Ap dent. o.	Field Test No	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														for permission to sample. Pit is northwest of Town Highway No. 13, 0.68 mile northeast of its junction with Town Highway No. 12.
11	1	1975	4-17	0-4	Yes	100	100	100	73	19	10		Sand	Owner: Bruce Booth. Formerly: Arel Farm. Area is pasture with multiple, irregular-shaped pits with ridge extensions. Two power lines cross the field on northern and southern edges, and a small stream flows between ridges in the center. Area is located 0.11 mile southeast of Town Highway No. 13 and 0.26 mile northeast of Town Highway No. 12 junction with Town Highway No. 13. Test No. 1 was in the upper northeast face of pit. Material was: 4' - 6', fine sand; 6' - 8', sand; 8' - 12', pebbly sand; 12' - 14', sand and fine sand; 14' - 17', fine gravel; bottoms in sloughed material.
	2A	1975	2-20	0-2	Yes	92	86	76	56	14	9		Granular Borrow (Gravel)	Test No. 2A was in the lower northeast face of pit. Mater- ial was: 2' - 3', sand; 3' - 5', gravel; 5' - 8', sand; 8' - 12', gravel; 12' - 16', silty gravel; 16' - 18', gravel; 18' - 20', sand; bottoms in Test No. 2B.

TABLE I

TROY GRANULAR DATA SHEET NO. 17

Report No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2B	1975	20-30	---	Yes	100	100	100	89	4	2	Sand	Test No. 2B was below Test No. 2A. Material was: 20' - 30', sand; bottoms in sloughed material.	
	3	1975	3-25	0-3	Yes	100	100	92	84	19	11	Sand	Test No. 3 was in the lower north face of pit. Material was: 3' - 4', sand; 4' - 5', fine sand; 5' - 10', sand; 10' - 15', sand and pebbly sand layers; 15' - 17', silt and clayey silt; 17' - 25', sand; bottoms in sloughed material.	
	4	1975	4-22	0-4	Yes	100	100	100	91	14	6	Sand	Test No. 4 was in lower north-northwest face of pit, 60 feet west of Test No. 3. Material was: 4' - 5.5', sand; 5.5' - 6.5', silt and fine sand layers; 6.5' - 12', sand; 12' - 17', gravel with orange seams; 17' - 20', gravelly sand; 20' - 22', sand and fine sand; with some stones; bottoms in sloughed material.	
	5	1975	4.5-12	0-4.5	Yes	100	100	100	95	9	4	Sand	Test No. 5 was in northwest face of pit. Material was: 4.5' - 5.5', sand; 5.5' - 10', gravel; 10' - 12', sandy gravel with silt traces; bottoms in sloughed material.	

TABLE I

TROY GRANULAR DATA SHEET NO. 18

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	6	1975	4-12	0-4	Yes	100	100	86	72	34	21		---	Test No. 6 was in west face of pit. Material was: 4' - 6', sand; 6' - 10', gravel and sandy gravel; 10' - 12', fine gravel; bottoms in sloughed material.
	7	1975	2-15	0-2	Yes	100	100	100	100	25	17		---	Test No. 7 was east-south-east face of southern pit area. Material was: 2' - 4', fine sand; 4' - 15', layers of sand, pebbly sand, and fine sand; bottoms in sloughed material.
12	1	1975	1-27	0-1	Yes	89	89	75	62	11	7		Granular Borrow (Gravel)	Owner: Brian Leblanc. Former Owner: Eugene Chouquette. Area is large pit in pasture with many high knolls. There are numerous barbed wire fences sectioning pasture and meadow, and a small stream running into shallow farm pond in western half of pit floor. Owner refused to allow backhoe digging in meadow, north of pit, which was a possible major extension. Clovis Bergeron, owner of meadows adjacent to Leblanc's property, also refused permission to backhoe his fields, but says he's already done it and found only silt and clay.

TABLE I

TROY GRANULAR DATA SHEET NO. 19

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks	
						% Passing									
						2"	1-1/2"	1/2"	#4	#100	#200				
															Pit is 0.10 mile east of Town Highway No. 22 on northern side of access road, and 0.27 mile southeast of Town Highway No. 16 junction with Town Highway No. 22. Test No. 1 was in east face of pit. Material was: 1' - 27', coarse gravel with sandy, coarse gravel layers; bottoms in sloughed material.
	2	1975	1.5-20	0-1.5	Yes	100	90	69	56	4	3	26.4%	Granular Borrow (Gravel)	Test No. 2 was in north face of pit. Material was: 1.5' - 10', coarse gravel; 10' - 20', coarse to medium gravel; bottoms in sloughed material.	
	3	1975	2-24	0-2	Yes	100	100	81	77	17	7		Sand	Test No. 3 was in northwest face of pit. Material was: 2' - 13', sand; 13' - 15', gravel; 15' - 24', sand; bottoms in sloughed material.	
	4	1975	1-11	0-1	Yes	68	61	42	27	12	9	19.2%	Granular Borrow (Gravel)	Test No. 4 was in pit floor, 20 feet west of Test No. 1. Material was: 1' - 2', sand; 2' - 11', bouldery gravel; bottoms in same.	
13	1	1975	10-45	0-1	Yes	84	74	60	50	9	5	25.8%	Granular Borrow (Gravel)	Owner: Brian Leblanc. Former Owner: Eugene Chouquette. Area is large pit in pasture	

TABLE I

TROY GRANULAR DATA SHEET NO. 20

Report No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks	
						% Passing									
						2"	1-1/2"	1/2"	#4	#100	#200				
															with high ridges and knolls for extension. There is large, Portland Pipeline Co., underground oil line in southwest corner of field, and a small stream runs along eastern edge of feature. Pit is located 0.10 mile east of Town Highway No. 22 on southern side of access road, and 0.27 mile southeast of Town Highway No. 16 junction with Town Highway No. 22. Test No. 1 was in east face of pit. Material was: 1' - 10', inaccessible; 10' - 12', coarse gravel; 12' - 25', sandy gravel; 25' - 45', coarse gravel; bottoms in sloughed material.
	2	1975	2-25	0-2	Yes	91	87	72	62	7	4	22.6%	Granular Borrow (Gravel)	Test No. 2 was in southwest face of pit. Material was: 2' - 8', sand; 8' - 17', gravel; 17' - 25', coarse gravel with some silt seams; bottoms in sloughed material.	
	3	1975	0-9	---	Yes	60	58	40	25	18	13	18.4%	Granular Borrow (Gravel)	Test No. 3 was in pit floor, 10 feet from Test No. 2. Material was: 0' - 1.5', fine sand; 1.5' - 9', bouldery gravel (2-20 inch stones); bottoms in same.	

TABLE I

TROY GRANULAR DATA SHEET NO. 21

ap dent. o.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	4	1975	1-9	0-1	No	100	100	100	94	44	18		---	Test No. 4 was on small ridge, 190 feet west of pit face. Material was: 1' - 2', pebbly sand; 2' - 9', fine sand; bottoms in fine sand.
	5	1975	1-11	0-1	No	100	100	100	100	73	34		---	Test No. 5 was atop knoll, 130 feet south of pit face. Material was: 1' - 10', silty sand; 10' - 11', sand; bottoms in sand.
	6	1975	1-8	0-1	No	100	100	100	100	68	49		---	Test No. 6 was 255 feet south-east of Test No. 5. Material was: 1' - 8', sandy silt; bottoms in sandy silt.
	7	1975	1-10	0-1	No	100	100	100	100	77	61		---	Test No. 7 was on high ridge, 280 feet south of Test No. 6. Material was: 1' - 10', silt; bottoms in same.
	8	1975	1-11	0-1	No	100	100	93	84	6	4		Sand	Test No. 8 was on lower end of ridge, 465 feet west of Test No. 7. Material was: 1' - 3', fine sand; 3' - 6', sand; 6' - 8', pebbly sand; 8' - 11', fine gravel; bottoms in fine gravel.
14	1	1975	1-3	0-1	Yes	100	100	100	78	11	5		Sand	Owner: Ted Market. Area is small shallow pit which was opened for use on logging road. The

TABLE I

TROY GRANULAR DATA SHEET NO. 22

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														extension is wooded, with swampy conditions on west side, and also on pit floor. It is on southern side of narrow logging road, 0.15 mile east of Town Highway No. 17, and 0.71 mile south of Town Highway No. 16 junction with Town Highway No. 17. Test No. 1 was in the east face of eastern pit lobe. Material was: 1' - 3', silty, gravelly, sand; bottoms in same.
15	1	1975	10-23	0-1.5	Yes	100	93	86	73	4	3		Sand	Owner: Raymond Labbee. Area has active and inactive pits on eastern side of Town Highway No. 22. Active pit has new barn on floor, which does not bother accessibility, with lightly treed pasture extension running to possible ledge. Inactive pit is 75 feet north of active one and completely covered with trees and grass. Ledge shows on face and floor and outcrops in wooded extension. The owner refused permission to test large meadow just north of inactive pit. Pit is 0.95 mile south of Town Highway

TABLE I

TROY GRANULAR DATA SHEET NO. 23

Sample Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2A	1975	1-20	0-1	Yes	100	100	100	89	3	2		Sand	No. 16 junction with Town Highway No. 22. Test No. 1 was in northeast face of southern pit. Material was: 0' - 1.5', overburden; 1.5' - 10', not sampled (not in-place); 10' - 23', intermixed layers of sand, pebbly sand, and fine gravel; bottoms in same.
	2B	1975	20-35	---	Yes	100	100	100	96	3	2		Sand	Test No. 2A was in eastern face of southern pit. Material was: 1' - 20', sand with some pebbly sand layers; bottoms in Test No. 2B.
	3	1975	1-22	0-1	Yes	93	83	74	62	5	3	18.2%	Granular Borrow (Gravel)	Test No. 3 was in east-south-east face of old northern pit. Material was: 1' - 20', sandy gravel; bottoms in silt and ledge.
16	1	1975	0.5-5	0-0.5	No	87	84	69	58	13	8	28.8%	Granular Borrow (Gravel)	Owner: Raymond Labbee. Area is 100 x 150-foot low knoll in pasture next to owner's house and east of Town Highway No. 22. It is 1.75 miles north of Town Highway No. 36 junction with Town Highway No. 22.

TABLE I

TROY GRANULAR DATA SHEET NO. 24

Ap tent. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														Test No. 1 was in middle of small knoll. Material was: 0.5' - 1.5', coarse gravel; 1.5' - 5', gravel; bottoms in silty sand.
17	1	1975	1-9	0-1	No	100	100	100	100	89	62	---	Owner: Raymond Labbee. Area is large upper ridge fenced-in for pasture with power line running along the top. There is lower ridge to the east which looks good, but is a meadow in which owner refused permission to sample. Upper ridge is west of Town Highway No. 22 on northern side of 0.17 mile access road, and 1.76 miles north of Town Highway No. 36 junction with Town Highway No. 22. Test No. 1 was in southern end of upper ridge, 175 feet north of access road. Material was: 1' - 2.5', fine gravel; 2.5' - 9', silt; bottoms in silt.	
	2	1975	0.5-8	0-0.5	No	100	100	100	96	77	38	---	Test No. 2 was in north end of upper ridge, 540 feet north of Test No. 1. Material was: 0.5' - 3', fine gravel; 3' - 8', silty sand; bottoms in silty sand.	
18	1	1975	1-8	0-1	No	100	100	100	100	47	20	---	Owner: Raymond Labbee. Area is long, irregular-shaped ridge with numerous	

TABLE I

TROY GRANULAR DATA SHEET NO. 25

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														fences. Ridge is used as meadow and pasture. A power line runs along the top and northern edge. Ridge is on southern side of access road with accesses 0.17 and 0.07 mile west of Town Highway No. 22, and 1.76 mile north of Town Highway No. 36 junction with No. 22.. Test No. 1 was in northern end of upper ridge, 70 feet southwest of access road. Material was: 1' - 8', silty sand; bottoms in silty sand.
	2	1975	1-8	0-1	No	100	100	100	100	99	64	---	Test No. 2 was in lower ridge, 160 feet south of access road. Material was: 1' - 6', silt; 6' - 8', sand; bottoms in sand.	
	3	1975	1-10	0-1	No	100	100	100	96	86	36	---	Test No. 3 was in middle of upper ridge, 50 feet south of fence line in pasture. Material was: 1' - 3', gravel; 3' - 4', sand; 4' - 8', silty sand; 8' - 10', sandy silt; bottoms in silty sand.	
	4	1975	1-5	0-1	No	100	100	100	100	43	15	Granular Borrow (Sand)	Test No. 4 was in southern end of pasture on upper ridge, 540 feet south of Test No. 3. Material was: 1' - 2', fine gravel; 2' - 4', silty sand; 4' - 5', silt-clay; bottoms in silt-clay.	

TABLE I

TROY GRANULAR DATA SHEET NO. 26

Report No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
19	1	1975	1-9	0-1	No	100	100	100	100	96	82	---	Owner: Raymond Labbee. Area is 75 x 125-foot low ridge in pasture extending down from wooded ledges to road. It is on the east side of Town Highway No. 22, 1.56 miles north of Town Highway No. 36 junction with No. 22. Test No. 1 was atop small ridge, 75 feet east of Town Highway No. 22. Material was: 1' - 9', silt; bottoms in same.	
20	1	1975	1-8	0-1	No	100	100	100	100	95	92	---	Owner: Raymond Labbee. Area is 75 x 200-foot low ridge in pasture extending down from wooded ledges to road. It is on the east side of Town Highway No. 22, 1.45 miles north of Town Highway No. 36 junction with No. 22. Test No. 1 was atop small ridge, 160 feet east of Town Highway No. 22. Material was: 1' - 3', silty sand; 3' - 8', silt-clay; bottoms in silt-clay.	
21	1	1975	1.5-9	0-1.5	No	100	100	100	92	27	8	Sand	Owner: Missisquoi Corp. Area is multi-knolled ridge in pasture extending down from woods to road with seasonal drainage ditch on	

TABLE I

TROY GRANULAR DATA SHEET NO. 27

Sample No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	1-8	0-1	No	100	100	100	100	99	80	---	<p>northern side. It is 50 feet east of Town Highway No. 22, 1.36 miles north of Town Highway No. 36 junction with No. 22.</p> <p>Test No. 1 was between two knolls, 85 feet east of Town Highway No. 22. Material was: 1' - 9', sand and fine sand with some silt seams; bottoms in sand.</p> <p>Test No. 2 was atop high knoll 230 feet east of Test No. 1. Material was: 1' - 8', silt; bottoms in same.</p>	
22	1	1975	1-5	0-1	No	100	100	100	84	73	58	---	<p>Owner: Missisquoi Corp. Area is swampy, tree- and bush-covered, old pasture with ledge showing in spots. There are numerous fence lines and gulleys in field which slopes down to the east. 450-foot access road is east of Vermont Route 101, and 1.32 miles south of Vermont Route 242 junction with Vermont Route 101.</p> <p>Test No. 1 was in old pasture behind summer home, 430 feet east of Vermont Route 101. Material was: 1' - 4', stoney silty sand; 4' - 5', silty sand; bottoms in same.</p>	

TABLE I

TROY GRANULAR DATA SHEET NO. 28

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	1-5	0-1	No	100	100	100	100	96	78		---	Test No. 2 was on lower knoll, 270 feet east of Test No. 1. Material was: 1' - 5', silt; bottoms in clayey silt.
	3	1975	1-5	0-1	No	100	100	100	96	91	87		---	Test No. 3 was in northern pasture, 80 feet north of tree line. Material was: 1' - 5', silt; bottoms in same.
23	1	1975	0.5-5	0-0.5	Yes	100	92	68	50	7	5	12.6%	Gravel	Owner: Roger Teberge. Area is pasture surrounded by woods with pit in southwest corner. There are large rocks in pasture and on wet pit floor. At time of survey, access road was in poor condition with ruts, and swampy areas. Pit is 0.30 mile southwest of Newport Town Highway No. 4, 0.70 mile northwest of its junction with Vermont Route 100, via obscure field and woods road. Test No. 1 was in northwest face of low pit. Material was: 0.5' - 5', sandy gravel; bottoms in gray hardpan.
	2	1975	1-4	0-1	No	90	80	62	50	12	10	16.8%	Granular Borrow (Gravel)	Test No. 2 was in field, 250 feet northwest of Test No. 1. Material was: 1' - 4', silty gravel; bottoms in gray hardpan.

TABLE I

TROY GRANULAR DATA SHEET NO. 29

Report No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
24	1	1975	1-7	0-1	Yes	100	100	66.7	63.0	45.0	37.0	A-4 Silt	Owner: Fernand Pepin. Area is 35 x 70-foot pit northwest of new house. Owner says material was drawn out to fill around house and he would not sell any. It is 300 feet north of Vermont Route 100, 0.34 mile east of Town Highway No. 27 junction with Vermont Route 100. Test No. 1 was in northeast face of pit. Material was: 1' - 7', silt-clay with some angular stone fragments; bottoms in same.	
25	1	1975	1-10	0-1	No	100	100	100	94	32	10	Granular Borrow (Sand)	Owner: Missisquoi Corp. Formerly: Perry Farm. Area is large pasture surrounded by fence and tree line with small ridges on east and west ends. No permission was given to sample meadow northwest of pasture; lower field northeast of pasture is swampy and just above Missisquoi River. 143-foot access road, northeast of Town Highway No. 24 end, has large narrow culvert in it. Test No. 1 was atop ridge at southwest edge of pasture.	

TABLE I

TROY GRANULAR DATA SHEET NO. 30

Appt. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	1-9	0-1	No	100	100	100	100	47	23	---	Material was: 1' - 2.5', wedge-shaped layer of gravel; 2.5' - 3.5', sand; 3.5' - 10', fine sand; bottoms in fine sand.	
	3	1975	1-8	0-1	No	100	100	100	92	4	2	Sand	Test No. 2 was in pasture, 285 feet northeast of Test No. 1. Material was: 1' - 9', silty sand; bottoms in same.	
	4	1975	1-11	0-1	No	93	90	75	58	35	20	19.2%	Test No. 3 was atop ridge, 290 feet southeast of Test No. 2. Material was: 1' - 2', fine sand; 2' - 4', fine gravel; 4' - 6', pebbly sand; 6' - 9', sand; hole caved excessively, could not go deeper.	
	5	1975	1-11	0-1	No	100	94	77	61	22	12	12.0%	Test No. 4 was in eastern edge of pasture, 240 feet northeast of Test No. 3. Material was: 1' - 1.5', gravel; 1.5' - 3', silty sand; 3' - 5', gravel; 5' - 11', sandy coarse gravel; bottoms in sandy coarse gravel.	
													Test No. 5 was in edge of pasture, 200 feet south of Test No. 4. Material was: 1' - 3', sand and fine sand;	

TABLE I

TROY GRANULAR DATA SHEET NO. 31

ap dent. o.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	6	1975	1-9	0-1	No	100	100	100	96	44	29		---	3' - 6', orange gravel; 6' - 10', sandy coarse gravel (1 to 8 inch stones); 10' - 11', pebbly silt (quarter-inch stones in silt); bottoms in pebbly silt. Test No. 6 was 160 feet north-west of Test No. 4. Material was: 1' - 7', fine sand; 7' - 9', silty sand; bottoms in black silty sand.
26	1	1975	1.5-10	0-1.5	Yes	100	100	100	99	7	2		Sand	Owner: Missisquoi Corp. Formerly: Perry Farm (David Perry presently leases land). Area is 70 x 70-foot pit in pasture with large, high knoll. Part of field is being stripped of topsoil for commercial use and at time of survey there was a junk metal collection point on northern edge. There is small stream on eastern edge of field with property line on southern edge; fence and tree lines surround area. It is 0.05 mile southwest of Town Highway No. 24 end. Test No. 1 was in southern face of pit. Material was: 1.5' - 2.5', pebbly sand; 2.5' - 10', sand; bottoms in sand.

TABLE I

TROY GRANULAR DATA SHEET NO. 32

Ap- dent. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	2	1975	0-7	---	Yes	100	100	100	98	11	5		Sand	Test No. 2 was in pit floor, 15 feet northwest of Test No. 1. Material was: 0' - 7', sand; bottoms in water and sand.
	3	1975	0.5-10	0-0.5	No	100	100	100	100	82	42		---	Test No. 3 was on side slope, 210 feet east of Test No. 2. Material was: 0.5' - 10', sandy silt; bottoms in same.
	4	1975	0.5-10	0-0.5	No	100	100	100	100	84	45		---	Test No. 4 was 200 feet south-east of Test No. 3 on slope. Material was: 0.5' - 10', silty sand; bottoms in same.
	5	1975	1-6	0-1	No	100	100	96	92	40	22		---	Test No. 5 was 220 feet south-east of Test No. 4 near fence line. Material was: 1' - 1.5', gravel; 1.5' - 5', silty sand; 5' - 6', silt; bottoms in silt.
	6	1975	1-11	0-1	No	100	100	100	94	18	9		Sand	Test No. 6 was 270 feet west of Test No. 5. Material was: 1' - 7', fine gravel; 7' - 11', sand; bottoms in sand.
	7	1975	1-9	0-1	No	100	100	100	100	38	20		---	Test No. 7 was atop knoll, 190 feet northeast of Test No. 6. Material was: 1' - 9', silty sand; bottoms in silty sand.

TABLE I

TROY GRANULAR DATA SHEET NO. 33

Ap- dent. o.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	8	1975	1-9	0-1	No	100	100	100	100	70	32		---	Test No. 8 was 200 feet northwest of Test No. 7. Material was: 1' - 3', sandy silt; 3' - 9', fine sand; bottoms in fine sand.
27	1	1975	1.5-10	0-1.5	Yes	100	100	100	99	21	6		Sand	Owner: Missisquoi Corp. Formerly: Perry Farm (David Perry presently leases land.) Area is 30 x 35-foot pit in northern end of wooded ridge. Ridge extends southward and widens until it reaches map Identification No. 29. Pit is west of tree-fence line and old, untravelled Town Highway No. 24. 0.09 mile access road is southwest of Town Highway No. 24 end. Test No. 1 was in southern face of pit. Material was: 1.5' - 10', sand and fine sand; bottoms in same.
28	1	1975	1.5-10	0-1.5	No	100	100	100	100	90	57		---	Owner: Missisquoi Corp. Formerly: Perry Farm (David Perry presently leases land.) Area is old pasture with large knoll and ridge and property line on southern edge. Old overgrown pit in northwest pasture corner was.

TABLE I

TROY GRANULAR DATA SHEET NO. 34

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														not sampled due to trees and overburden on all faces and low relief. It is south of Town Highway No. 24, 0.16 mile west of its junction with Town Highway No. 22. Test No. 1 was on side of knoll, 225 feet south of Town Highway No. 24. Material was: 1.5' - 10', fine sand; bottoms in fine sand.
	2	1975	2-9	0-2	No	100	100	100	100	47	16	---		Test No. 2 was in southwest corner of field, 425 feet southwest of Test No. 1. Material was: 2' - 9', silty sand; bottoms in same.
	3	1975	1-9	0-1	No	100	100	100	100	93	47	---		Test No. 3 was 300 feet east of Test No. 2. Material was: 1' - 9', sandy silt; bottoms in same.
	4	1975	1-9	0-1	No	100	100	100	100	53	19	---		Test No. 4 was 300 feet north-east of Test No. 3. Material was: 1' - 9', silty sand; bottoms in same.
29	1A	1975	1-24	0-1	Yes	100	100	100	98	6	3	Sand		Owner: Missisquoi Corp. Formerly: Labounty Farm; George Starr and/or Merton Thayer may have opened pits. Area is old pasture and fields with two large pits and several

TABLE I

TROY GRANULAR DATA SHEET NO. 35

Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														ridges. There are many tree lines, and a property line on south and southwest edges. Pit floors and faces are grass and tree-covered with eastern pit being the worst. Access roads to both pits could use some work, however old untravelled Town Highway No. 24 goes between the two and might be utilized. Western pit is 0.15 mile east of Vermont Route 101, and eastern pit is 180 feet beyond, at point from untravelled Town Highway No. 24 junction with Vermont Route 101. Test No. 1A was in southeast face of western pit. Material was: 1' - 18', sand; 18' - 24', pebbly sand; bottoms in Test No. 1B.
	1B	1975	24-32	---	Yes	100	100	100	99	8	4		Sand	Test No. 1B was below Test No. 1A. Material was: 24' - 32', sand; bottoms in same.
	2A	1975	3-18	0-3	Yes	100	82	82	56	10	4	20.4%	Gravel	Test No. 2A was in northeast face of western pit. Material was: 3' - 4', sand; 4' - 6', fine sand; 6' - 16', fine gravel; 16' - 18', gravel; bottoms in sloughed material. No Test No. 2B was taken because backhoe could not get in position to dig.

TABLE I

TROY GRANULAR DATA SHEET NO. 36

Cap Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3A	1975	5-18	0-5	Yes	100	100	100	89	15	7	Sand	Test No. 3A was in northern face of western pit. Material was: 5' - 6', sand; 6' - 6.5', fine sand; 6.5' - 12', pebbly sand; 12' - 15', fine sand; 15' - 17', sand; 17' - 18', fine sand; bottoms in Test No. 3B.	
	3B	1975	18-26	---	Yes	100	100	94	83	15	6	Sand	Test No. 3B was below Test No. 3A. Material was: 18' - 19', sand; 19' - 20', fine gravel; 20' - 21', fine sand; 21' - 23', fine gravel; 23' - 26', sand and fine sand seams; bottoms in pebbly sand.	
	4	1975	1-10	0-1	Yes	100	100	94	77	15	6	Sand	Test No. 4 was in northeast face of eastern pit. Material was: 1' - 3', sand; 3' - 10', fine gravelly sand; bottoms in sloughed material.	
	5A	1975	1-20	0-1	Yes	100	100	100	98	11	5	Sand	Test No. 5A was in southwest face of eastern pit. Material was: 1' - 8', sand; 8' - 20', fine sand and sand; bottoms in sloughed material. No Test No. 5B taken, unable to get backhoe onto pit floor.	
	6	1975	0.5-9	0-0.5	Yes	100	100	100	97	6	2	Sand	Test No. 6 was in pit floor, 40 feet northwest of Test No. 1. Material was: 0.5' - 2.5', sand; 2.5' - 3.5', fine sand; 3.5' - 9', sand; bottoms in sand	

TABLE I

TROY GRANULAR DATA SHEET NO. 37

Sample No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	7	1975	0.5-11	0-0.5	No	100	100	100	100	87	48	---	Test No. 7 was 115 feet south-east of Test No. 1, near tree-property line. Material was: 0.5' - 11', sandy silt; bottoms in same.	
	8	1975	1-7	0-1	No	100	100	100	100	63	19	---	Test No. 8 was 200 feet east of Test No. 7. Material was: 1' - 7', silty sand; bottoms on large boulder or ledge.	
	9	1975	1-9	0-1	No	100	100	100	97	21	7	Sand	Test No. 9 was 170 feet north-west of Test No. 7. Material was: 1' - 6', fine sand; 6' - 9', sand; bottoms in sand.	
	10	1975	1-10	0-1	No	100	100	100	99	12	4	Sand	Test No. 10 was 200 feet north-west of Test No. 9. Material was: 1' - 10', sand; bottoms in sand.	
	11	1975	1-8	0-1	No	100	100	100	98	6	2	Sand	Test No. 11 was 200 feet north-east of Test No. 10. Material was: 1' - 8', sand; bottoms in sand.	
	12	1975	1-11	0-1	No	100	89	65	47	6	4	22.6% Gravel	Test No. 12 was 180 feet east-northeast of Test No. 8. Material was: 1' - 11', gravel; bottoms in gravel.	
	13	1975	1-10	0-1	No	100	100	100	100	52	19	---	Test No. 13 was in western end of high ridge, 150 feet east of Vermont Route 101. Material was: 1' - 10', silty	

TABLE I

TROY GRANULAR DATA SHEET NO. 38

Ap- dent. o.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	14	1975	1-6	0-1	No	100	100	100	100	70	45	---	sand; bottoms in same. Test No. 14 was 200 feet northeast of Test No. 13 on east end of high ridge. Material was: 1' - 6', sandy silt; bottoms on large boulder or ledge.	
	15	1975	1-9	0-1	No	100	100	100	90	52	20	---	Test No. 15 was in lower level of high ridge, 100 feet north of Test No. 14. Material was: 1' - 9', fine sand; bottoms in same.	
30	1	1975	1-8	0-1	Yes	100	100	100	100	41	9	Granular Borrow (Sand)	Owner: Camille Routhier. Area is long, narrow meadow with low knolls and junk-filled, overgrown pit in southwest corner. Pit has standing water on floor, plus whey-waste which is dumped from local cheese plant. There was 90' x 60' overgrown pit in woods southwest of meadow which was inaccessible to backhoe and had no place for hand sample. On eastern edge of field, owner has car junk yard; barbed wire fence on northern edge is property line. Northwest corner of meadow is swampy, and several bush-covered fields in area were open pasture not long ago. Pit is located 0.25	

TABLE I

TROY GRANULAR DATA SHEET NO. 39

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														mile west of Town Highway No. 22, 0.46 mile northeast of its junction with Vermont Route 100. Test No. 1 was in southern face of pit. Material was: 1' - 8', fine sand; bottoms in sloughed material.
	2	1975	1-7	0-1	Yes	100	100	100	95	24	6	Sand	Test No. 2 was in northern face of pit. Material was: 1' - 7', fine sand with sand seams; bottoms in sloughed material.	
	3	1975	1.5-10	0-1.5	No	100	100	100	98	75	24	---	Test No. 3 was 70 feet south of old pit face on eastern end. Material was: 1.5' - 5', fine sand; 5' - 5.3', gravel; 5.3' - 10', silty sand; bottoms in silty sand.	
	4	1975	1-10	0-1	No	100	100	100	100	56	11	Granular Borrow (Sand)	Test No. 4 was atop knoll, 200 feet east-northeast of Test No. 3. Material was: 1' - 10', fine sand; bottoms in same.	
	5	1975	1.5-10	0-1.5	No	100	100	100	95	25	10	Sand	Test No. 5 was in bush-covered field, 200 feet south of Test No. 4. Material was: 1.5' - 7', sand; 7' - 8', fine sand; 8' - 10', pebbly sand; bottoms in pebbly sand.	

TABLE I

TROY GRANULAR DATA SHEET NO. 40

Tap Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	6	1975	1-11	0-1	No	100	100	100	94	66	32	---	Test No. 6 was 300 feet southwest of Test No. 3 on tree-bush covered ridge. Material was: 1' - 11', silty sand; bottoms in same.	
	7	1975	1-10	0-1	No	100	100	100	100	96	66	---	Test No. 7 was 190 feet north of Test No. 4 stop small ridge. Material was: 1' - 10', silt; bottoms in silt.	
	8	1975	1.5-9	0-1.5	No	100	100	100	100	57	13	Granular Borrow (Sand)	Test No. 8 was on side of small knoll at northern edge of junk yard. Material was: 1.5' - 9', fine sand; bottoms in silty sand.	
	9	1975	1-9	0-1	No	100	100	100	100	65	22	---	Test No. 9 was 250 feet north of Test No. 8 on low ridge. Material was: 1' - 9', silty sand; bottoms in same.	
	10	1975	1-9	0-1	No	100	100	100	100	83	39	---	Test No. 10 was atop low knoll on western side of meadow. Material was: 1' - 9', sandy silt; bottoms in same.	
	11	1975	1-10	0-1	No	100	100	100	99	34	9	Granular Borrow (Sand)	Test No. 11 was on south side of access road, 0.07 mile west of Town Highway No. 22. Material was: 1' - 10', fine sand; bottoms in moist, fine sand.	

TABLE I

TROY GRANULAR DATA SHEET NO. 41

ap dent. o.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
31	1	1975	1-10	0-1	No	100	100	100	100	95	59		---	Owner: Camille Routhier. Area is bush-covered field with ridge running north-south in middle. There were two bulldozed holes which were used by local cheese plant to dump waste whey. It is located 0.06 mile west of Town Highway No. 22, 0.36 mile northeast of its junction with Vermont Route 100. Test No. 1 was 150 feet west-northwest of Town Highway No. 22 on northern edge of field. Material was: 1' - 10', silt, bottoms in same.
	2	1975	1-10	0-1	No	100	100	100	94	9	3		Sand	Test No. 2 was 320 feet southwest of Test No. 1 on southern edge of field. Material was: 1' - 10', fine sand; bottoms in same.
	3	1975	0.5-11	0-0.5	No	100	100	100	100	36	13		Granular Borrow (Sand)	Test No. 3 was 120 feet north of Test No. 2. Material was: 0.5' - 3', sand; 3' - 5', fine sand; 5' - 7.5', sand; 7.5' - 10', fine sand; bottoms in fine sand.
	4	1975	1-9	0-1	No	100	100	100	100	79	27		---	Test No. 4 was 210 feet northeast of Test No. 3. Material was: 1' - 9', silty sand; bottoms in same.

TABLE I

TROY GRANULAR DATA SHEET NO. 42

Tap Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	5	1975	1-10	0-1	No	100	100	100	99	27	8		Sand	Test No. 5 was 290 feet west of Test No. 3. Material was: 1' - 7', fine sand; 7' - 10', sand; bottoms in sand.
	6	1975	1.5-7	0-1.5	No	100	100	100	100	49	19		---	Test No. 6 was 130 feet southwest of Test No. 5. Material was: 1.5' - 6', sand and fine sand; 6' - 7', silt; water flowing in hole at 6 feet.
32	1	1975	3-15	0-3	Yes	100	100	94	85	35	19		---	Owner: Wilfred St. George. Area is 90 x 60-foot bowl-shaped pit in east end of east-west trending ridge. Field is bounded on north and south by meadow, (in which owner would not allow digging), and extends into swampy area to the west. Pit is 0.05 mile west of Vermont Route 101, 0.40 mile north of its junction with State Aid Highway No. 1. Test No. 1 was in northwest face of pit. Material was: 3' - 15', gray till with angular stones; bottoms in same.
	2	1975	6-20	0-6	Yes	100	100	100	100	25	13		Granular Borrow (Sand)	Test No. 2 was in west-northwest face of pit. Material was: 6' - 20', sand with a few silt seams; bottoms in sand.

TABLE I

TROY GRANULAR DATA SHEET NO. 43

Tap Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3	1975	1.5-17	0-1.5	Yes	100	100	100	100	11	5	Sand	Test No. 3 was in west-south-west face of pit. Material was: 1.5' - 17', sand; bottoms in sand.	
	4	1975	2.5-10	0-2.5	Yes	100	100	100	100	12	5	Sand	Test No. 4 was in pit floor, 20 feet south of Test No. 1. Material was: 2.5' - 5', sand; 5' - 10', fine sand with silt traces; bottoms in fine sand.	
	5	1975	1.5-8	0-1.5	No	100	100	94	85	35	19	---	Test No. 5 was 60 feet south-east of Test No. 3 near fence line. Material was: 1.5' - 2.5', silty sand; 2.5' - 4', sand; 4' - 8', silty sand; bottoms in silty sand.	
	6	1975	1-5	0-1	No	100	100	100	100	78	54	---	Test No. 6 was 185 feet west of Test No. 3, in field. Material was: 1' - 3', clayey silt; 3' - 5', boulders with gray silty clay; bottoms in large boulders.	
	7	1975	1-10	0-1	No	100	100	100	100	66	52	---	Test No. 7 was 160 feet north of Test No. 6. Material was: 1' - 8', silt-to-clay with rocks (2-10 inch); 8' - 10', sandy silt; bottoms in sandy silt.	
	8	1975	1-8	0-1	No	100	100	100	93	83	61	---	Test No. 8 was 320 feet west of Test No. 6. Material was: 1' - 8', silt-to-clay; bottoms in same.	

TABLE I

TROY GRANULAR DATA SHEET NO. 44

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						2"	1-1/2"	1/2"	#4	#100	#200			
	9	1975	1.5-9	0-1.5	No	100	100	100	100	17	5		Sand	Test No. 9 was in ridge, 85 feet southeast of Test No. 8. Material was: 1.5' - 8', fine sand with silt traces; 8' - 9', sand; bottoms in sand.
33	1	1975	2-18	0-2	Yes	100	100	100	94	41	19		---	Owner: Jean Paul Couture. Area is 20-acre meadow with bowl-shaped pit in western edge of high knoll. Owner has field hayed and did not want backhoe digging. Pit is located 50 feet east of Vermont Route 101, 0.25 mile north of Vermont Route 101 junction with State Aid Highway No. 1. Test No. 1 was in southeast face of pit. Material was: 2' - 4', fine sand; 4' - 5', silty clayey sand layer; 5' - 18', sand and fine sand; bottoms in sloughed material.
	2A	1975	4-20	0-4	Yes	100	95	94	91	32	20		---	Test No. 2A was in northeast face of pit. Material was: 4' - 20', fine sand and silty sand; bottoms in sloughed material.
	2B	1975	20-28	---	Yes	100	100	100	100	38	15		Granular Borrow (Sand)	Test No. 2B was offset slightly below Test No. 2A. Material was: 20'-28', sand and fine sand with silt seams, bottoms in sand.

TABLE I

TROY GRANULAR DATA SHEET NO. 45

Cap Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3	1975	0.5-10	0-0.5	Yes	100	100	100	100	39	14		Granular Borrow (Sand)	Test No. 3 was in pit floor, 20 feet southwest of Test No. 2. Material was: 0.5' - 10', sand and fine sand; bottoms in sand.
	4	1975	6-9	0-6	Yes	100	100	100	99	33	31		---	Test No. 4 was 0.12 mile east of Vermont Route 101 in back of large knoll in diggings. Material was: 6' - 9', silty sand; bottoms in sand.
	5	1975	1.5-10	0-1.5	No	100	100	100	100	98	69		---	Test No. 5 was 240 feet east of Test No. 4. Material was: 1.5' - 10', silt; bottoms in same.
34	1	1975	2-12	0-2	Yes	100	100	100	99	14	4		Sand	Owner: Mrs. Rose Brault. Area is uneven, multi-knolled pasture with small pit in southwest corner. J. P. Couture property line is close to pit and would limit extension to the southwest. Pit is 440 feet up steep hill in pasture north of Vermont Route 100, 0.14 mile west of Town High- way No. 22 junction with Vermont Route 100. There was possibly a better access west of Town Highway No. 22, however owner did not want anyone driving through uncut meadow. Test No. 1 was in southwest

TABLE I

TROY GRANULAR DATA SHEET NO. 46

Ap dent. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						2"	1-1/2"	1/2"	#4	#100	#200			
														face of pit. Material was: 2' - 4', silt and fine sand; 4' - 10', sand; 10' - 12', fine sand; bottoms in sloughed material.
35	1	1974	1-7	0-1	Yes	97	95	80	57	5	4	15.4%	Gravel	Owner: Jean Meunier. Area is large pit with high vertical face. The pit is nearly depleted; its exten- sions are close to houses, or drop off sharply. Owner is keeping remaining material for his construction business and will not sell it. The faces in pit were not hand sampled because they were not in place or were high and vertical with no extension. Pit is 0.13 mile southwest of Town Highway No. 37, 0.08 mile west of Vermont Route 101 junction with Town High- way No. 37. Test No. 1 was in northeast floor of pit. Material was: 1' - 5', rusty, pebbly fine gravel; 5', water; 5' - 7', cobbly fine gravel; bottoms in water and silty sand.
	2	1974	0.5-4	0-0.5	Yes	100	100	100	94	30	19		---	Test No. 2 was in southwest floor of pit, 200 feet south- west of Test No. 1. Material was: 0.5' - 4', sharp sand;

TABLE I

TROY GRANULAR DATA SHEET NO. 47

Ap- dent. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
	3	1974	1-7	0-1	Yes	100	100	100	100	9	4		Sand	bottoms in water and silt-to-clay. Test No. 3 was in southern end of pit floor, 150 feet southeast of Test No. 2. Material was: 1' - 2', rusty pebbly sand; 2' - 4', sand; 4', water; 4' - 7', sand; bottoms in blue fine sand and water.
36	1	1975	0.5-4	0-0.5	Yes	100	100	100	100	87.7	69.3		---	Owner: Armand Morrissette. Area is field with smoothed-over shallow pit. Owner opened pit to fill in around new house, and would not sell material. Missisquoi River is close and water table is just below surface of field. Pit is 0.15 mile northeast of Vermont Route 100, 0.083 mile southwest of Vermont Route 101 junction with Route 100. Test No. 1 was in field south of smoothed-over section of pit. Material was: 0.5' - 4', moist silt-to-clay; bottoms in water.
37	1	1975	0.5-6	0-0.5	Yes	100	95	78	58	6	2	10.3%	Gravel	Owner: Phil Chaput. Area is small, irregular-shaped pit in southern end

TABLE I

TROY GRANULAR DATA SHEET NO. 48

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														of pasture. Field is surrounded by woods and there are many large rock piles. 810-foot access west of Town Highway No. 28 is steep, rutted, wet field and woods road, 0.39 mile south of Town Highway No. 30 junction with No. 28. Test No. 1 was in east face of pit. Material was: 0.5' - 3', stoney gravel; 3' - 4', gravel; 4' - 5', stoney gravel; 5' - 6', sandy gravel; bottoms on large boulder or ledge.
	2	1975	1-4	0-1	No	83	61	51	39	38	25	---	Test No. 2 was near tree-line, 190 feet northeast of Test No. 1. Material was: 1' - 4', gray till; bottoms on ledge.	
	3	1975	1-5	0-1	No	32	32	32	32	64	50	---	Test No. 3 was near tree-line, 300 feet northwest of Test No. 1. Material was: 1'-2', silty gravel; 2' - 5', gray till; bottoms in possible ledge.	
38		1975	-----	-----	N O	S A M P L E S T A K E N						-----	Owner: Gerald D. Kilcullen. Area is large, multi-faced pit with large, nearly flat field to the west for extension. Field has gully	

TABLE I

TROY GRANULAR DATA SHEET NO. 49

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
														running down center of it, and is bounded by woods on western and southern edge with tree line and meadow to the east. Pit faces and field are getting overgrown with bushes and small trees. Owner denied permission to backhoe or hand sample his property saying he intends to preserve natural beauty and, in future, use it for farming. Pit is located south of Town Highway No. 31, 0.10 mile west of Town Highway No. 32 junction with No. 31.
39		1975	-----	-----	NO	S A M P L E S T A K E N						-----	-----	Owner: Gerald D. Kilcullen. Area is small overgrown pit in middle of field. Pit is in a possible terrace with extension to the southeast. A brook runs through woods on its eastern edge with tree line to the south. Pit is 0.10 mile southeast of Town Highway No. 31 junction with Town Highway No. 32. Owner denied permission to backhoe or hand sample his property.

TABLE I

TROY GRANULAR DATA SHEET NO. 50

Ap dent. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis						Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						2"	1-1/2"	1/2"	#4	#100	#200			
40	1	1975	0.5-5	0-0.5	Yes	100	100	100	100	53	18		---	<p>Owner: Leo Daigle. Area is 80' x 70' shallow pit in bush-covered field at northeast end of low ridge. Level field on either side of ridge has swampy areas and stone piles. There was remains of house and barn buried in southwest end of ridge near Town Highway No. 28. Pit is 340 feet north-east of Town Highway No. 28, 0.24 mile east of the Troy-Westfield Town Line.</p> <p>Test No. 1 was in west face of low pit. Material was: 0.5' - 1.5', gravel; 1.5' - 2.5', pebbly sand; 2.5' - 5', sand and fine sand; bottoms in fine sand.</p>
	2	1975	1-5.5	0-1	Yes	100	100	100	94	37	11		Granular Borrow (Sand)	<p>Test No. 2 was in east face of low pit. Material was: 1' - 2', pebbly sand; 2' - 5.5', sand and fine sand; bottoms in fine sand.</p>
	3	1975	1-5	0-1	No	100	100	100	83	23	11		Sand	<p>Test No. 3 was in field, 150 feet northwest of Test No. 1. Material was: 1' - 2', fine gravel; 2' - 3', pebbly sand; 3' - 3.5', sand; 3.5' - 5', sand and fine sand with silt traces; bottoms in fine sand.</p>

TROY PROPERTY OWNERS - GRANULAR

	Map Identification Number
Booth, Bruce	11
Brault, Mrs. Rose	34
Chaput, Phil	37
Couture, Jean Paul	33
Daigle, Leo	40
Dunn, Harvey	1, 2
Kilcullen, Gerald D.	38, 39
Labbee, Raymond	15, 16, 17, 18, 19, 20
Leblanc, Brian	12, 13
Market, Ted	14
McLelland, C. A.	10
Meunier, Jean	35
Missisquoi Corp.	21, 22, 25, 26, 27, 28, 29
Morrisette, Armand	36
Pepin, Fernand	24
Routhier, Camille	30, 31
St. George, Wilfred	32
Smith, Wallace	5, 6
Starr, Dr. Durward	4
Starr, Robert Sr.	7, 8, 9
Teberge, Roger	23
Thayer, Merton	3

TROY ROCK DATA SHEET NO. 1

Table II

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Exist- ing Quarry	Method of Sampling	Abrasion AASHTO		Remarks
						T-3	T-96	
1	1-A	1975	Serpenin-ite	No	Chip	---	17.0%	Owner: Gaston LeBlanc. Area is a low outcrop just south of the Canadian Pacific Railway tracks. Access was 0.34 mile southward to Vermont Route 105, 0.20 mile east of its junction with Town Highway No. 17, and was across wet, muddy fields. Outcrop consisted of two round-topped, rocky knolls which were overgrown. Maximum relief is 30 feet; the combined size of the knolls is 300 feet long and 50 feet wide. There is not enough material to consider this a major source. The material is similar to that sampled in the south end of town. There were some fiber zones (seams) on random pieces of rock. The rock was highly jointed and more shattery near the south end of the outcrop; northward, the rock graded to a dense, very hard, fine-grained amphibolite, which may have contained scattered xenoliths. Test No. 1-A was a 75-foot sample taken southward along the west side of the northern knoll.
	1-B	1975	Serpenti-nite	No	Chip	---	23.9%	Test No. 1-B was a 75-foot sample taken southward along the west side of the southern knoll.
2	1-A	1975	Varied	No	Chip	4.6%	21.3%	Owner: Reginald Blais. Area is a rocky field west of Town Highway No. 18, 0.06 mile south of its junction with Vermont Route 105. It is mapped as being the Moretown member of the Missisquoi Formation, but resembles a fine-grained amphibolite. The rock varies from a dark green to gray, fine-grained, amphibolite (greenstone) to a graywacke. It is dense, hard and breaks sub-angularly to blocky; and grades to a slaty and rather brittle, rusty-weathered, thin-bedded, quartzose schist. This location has only minor reserves. Development would probably be westward up the gently sloping bedrock

TROY GRANULAR DATA SHEET NO. 2

Table II

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Existing Quarry	Method of Sampling	Abrasion AASHTO		Remarks
						T-3	T-96	
	1-B	1975	Varied	No	Chip	5.2%	21.4%	control field, however, relief was only 10 to 15 feet on outcrop. Test No. 1-A was a 100-foot sample taken northward along the trend of the low, southern outcrop. Test No. 1-B was a 100-foot sample taken northward along the trend of the low, northern outcrop.
3	1-A	1975	Phyllite and Schist	No	Chip	---	40.0%	Owner: Missisquoi Corp. Land is leased to David Perry for farming. Area is a rocky, partly wooded hillside pasture east of Town Highway No. 22; access is 0.31 mile north of the junction of Town Highway No. 25 and Town Highway No. 22. The rock is either the Ottawaquechee phyllite or schist, or the Stone phyllite or schist. The pasture has scattered low outcrops, and slopes east up into woods having series of low outcrops. There is a power-line right-of-way which roughly parallels the road near the west edge of the pasture. The rock showed some sulfides; and had folds of very thin bands (1/16" to paper-thin). There were many shattery, thin, sharp-edged, tabular pieces which were big enough only for testing by the Los Angeles Method (AASHTO T-96). Overall, this area does not show promise as a rock source. Test No. 1-A was a 75-foot sample taken along the northwest exposure of the outcrop, and just east of the power line.
	1-B	1975	Phyllite and Schist	No	Chip	---	42.9%	Test No. 1-B was a 75-foot sample taken along the southwest exposure of the outcrop, just east of the power line.

TROY ROCK DATA SHEET NO. 3

Table II

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Exist-ing Quarry	Method of Sampling	Abrasion AASHTO		Remarks
						T-3	T-96	
4	1-A	1975	Ultra-mafics	No	Chip	2.7%	13.7%	<p>Owner: Jacques Couture.</p> <p>Area was a north-south trending, steep, heavily wooded ledge in the south-central part of Troy, just east of the Westfield-Troy Town Line. Access is via field roads, 0.8 mile east and north of Westfield Town Highway No. 12; these field roads are passable only during dry weather. The scarp drops sharply to the west, and has few places which could be sampled. The dark green serpentinite showed typical ultramafic weathering characteristics: gray-to-brown, with deeply etched solution lines furrowing the surface. The rock broke uncharacteristically for serpentinite, there were two parallel cleavage planes, and one oblique cleavage plane; these produced a slightly hackly cleavage. The rock is hard, but may yield fragments with a high percentage of sharp edges. However, this material may have to be used below the wearing surfaces in road construction. The outcrop was 600 feet long, 60 feet high, and 50 to 100 feet wide.</p> <p>Test No. 1-A was a 75-foot sample taken along the southwest base of steep scarp.</p>
	1-B	1975	Ultra-mafics	No	Chip	2.7%	14.4%	<p>Test No. 1-B was a 75-foot sample taken along the western base of steep scarp, just north of Test No. 1-A.</p> <p>Overall, this would be a major source of rock in town.</p>
5	1-A	1975	Ultra-mafics	No	Chip	6.0%	13.1	<p>Owner: Jean Paul Bonneau.</p> <p>Area was the highest of a series of heavily wooded ledges in the south-central part of Troy, just east of the Westfield-Troy Town Line, and 0.06 mile east of Map Identification No. 4. The ledges were</p>

TROY ROCK DATA SHEET NO. 4

Table II

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Exist- ing Quarry	Method of Sampling	Abrasion AASHTO		Remarks
						T-3	T-96	
	1-B	1975	Ultra- mafics.	No	Chip	3.8%	22.5%	too steep and rounded to sample except from the pile of blocks at the base of the scarp. The serpentinite appeared coarser-grained than that found 300 feet to the west at Map Identifi- cation No. 4. Test No. 1-A was a 100-foot sample taken north- ward along the piles of blocks at the southwest base of the scarp. Test No. 1-B was a 100-foot sample taken from piles of blocks north of Test No. 1-A.
6	1-A	1975	Ultra- mafics	No	Chip	5.1%	19.8%	Owner: James Morey. Area is wooded knoll, 0.25 mile west-southwest of the junction of Town Highways No. 28 and 29. Access is by trail just south of barbed wire fence. Pasture and woods show evidence of bedrock control. The knoll is 0.1 mile east of the outcrop at Map Identification No. 5, and has a nearly vertical 20-to 50-foot high west scarp. The crest of knoll is 150 feet long and 50 feet wide. The scarp is mapped as Moretown phyllite and schist of the Missisquoi Formation, but it is ultramafic serpen- tinite. Test No. 1-A was a 75-foot sample taken southward from the north end of the knoll crest.
	1-B	1975	Ultra- mafics	No	Chip	3.8%	19.3%	Test No. 1-B was a 75-foot sample taken southward from Test No. 1-A.
7	1-A	1975	Quartzite	No	Chip	2.6%	18.0%	Owner: Leo Daigle. Area is a wooded, small outcrop, 0.06 mile north- east of Town Highway No. 28, and 0.32 mile north-

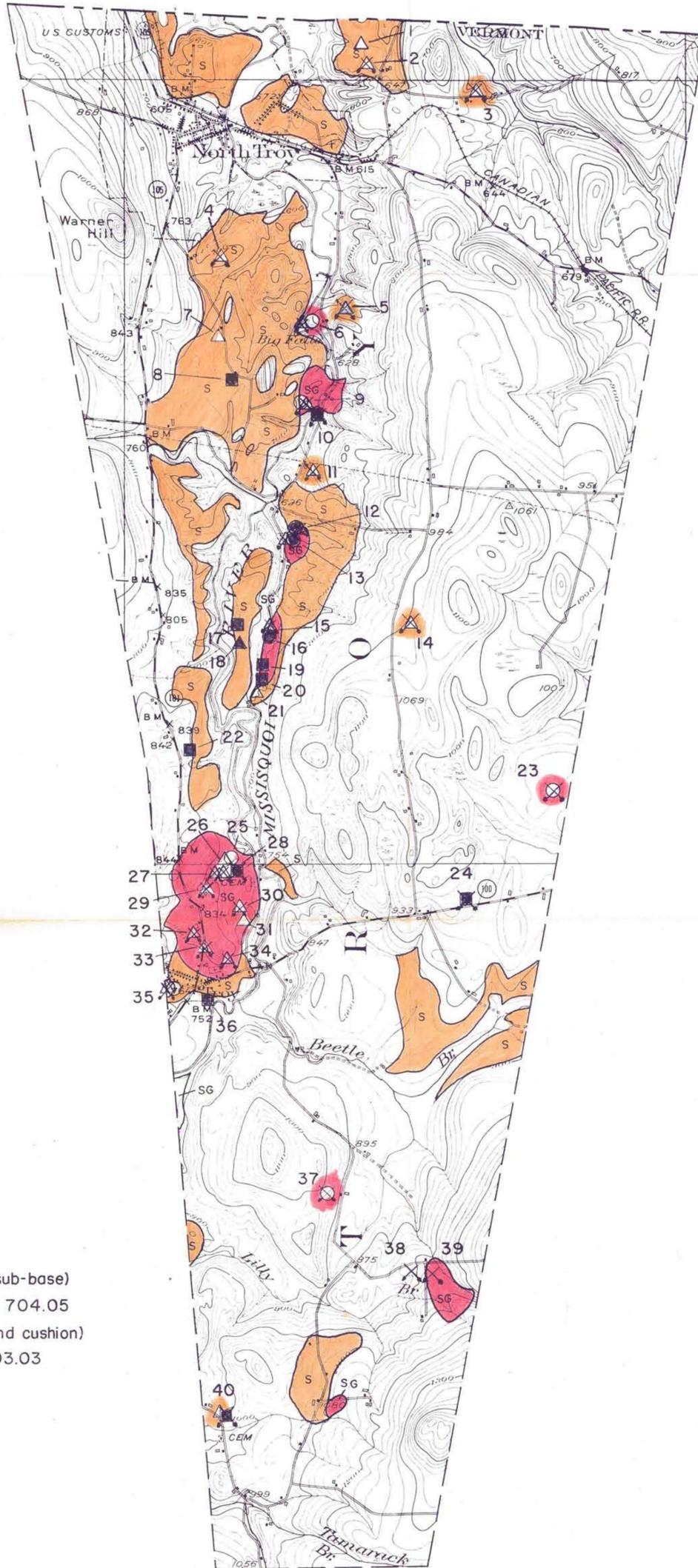
TROY ROCK DATA SHEET NO. 5

Table II

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Exist-ing Quarry	Method of Sampling	Abrasion AASHTO		Remarks
						T-3	T-96	
								<p>west of the junction of Town Highways No. 28 and 35. Relief varies from 30 to 50 feet. The rock varies from a dark gray, thin-bedded, hard, sharp-edged quartzite, to a buff-to-light green dense, very hard, nearly sub-vitreous quartzite. Some mineralization was noted in slender, thread-like occurrences. Breakage is easy in zones of jointing or weathering. The dark gray rock produced tabular and sharp-edged fragments and the light green variety yielded more blocky pieces. Most of outcrop was round or smooth, so sampling was limited to certain zones.</p> <p>Test No. 1-A was a 75-foot sample taken southward from the north end of the crest of the outcrop.</p> <p>Test No. 1-B was a 75-foot sample taken southward from Test No. 1-A.</p> <p>The outcrop was 150 feet long by 50 feet wide, and slopes gradually to woods and brushy, bedrock control surfaces. A power line right-of-way passes north-northwestward between the road and the outcrop.</p>
	1-B	1975	Quartzite	No	Chip	3.0%	19.0%	

TROY PROPERTY OWNERS - ROCK

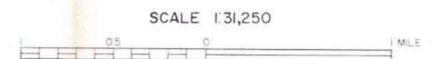
	Map Identification Number
Blais, Reginald	2
Bonneau, Jean Paul	5
Couture, Jacques	4
LeBlanc, Gaston	1
Missisquoi Corp.	3
Morey, James	6



LEGEND

- GRAVEL, ACCEPTABLE FOR SEC. 704.05 (gravel for sub-base)
- GRAVEL, DEPLETED OR NOT ACCEPTABLE FOR SEC. 704.05
- △ SAND, ACCEPTABLE FOR SEC. 703.03 (sand borrow and cushion)
- ▲ SAND, DEPLETED OR NOT ACCEPTABLE FOR SEC. 703.03
- GRANULAR BORROW, SEC. 703.05
- MATERIAL NOT ACCEPTABLE FOR SEC. 703.05
- ✕ EXISTING PIT
- SG SAND & GRAVEL DEPOSIT
- S SAND DEPOSIT
- 3 IDENTIFICATION NUMBER (refer to data sheets)

TROY



SCALE 1/31,250

CONTOUR INTERVAL 20 FEET

1976

GRANULAR MATERIALS MAP

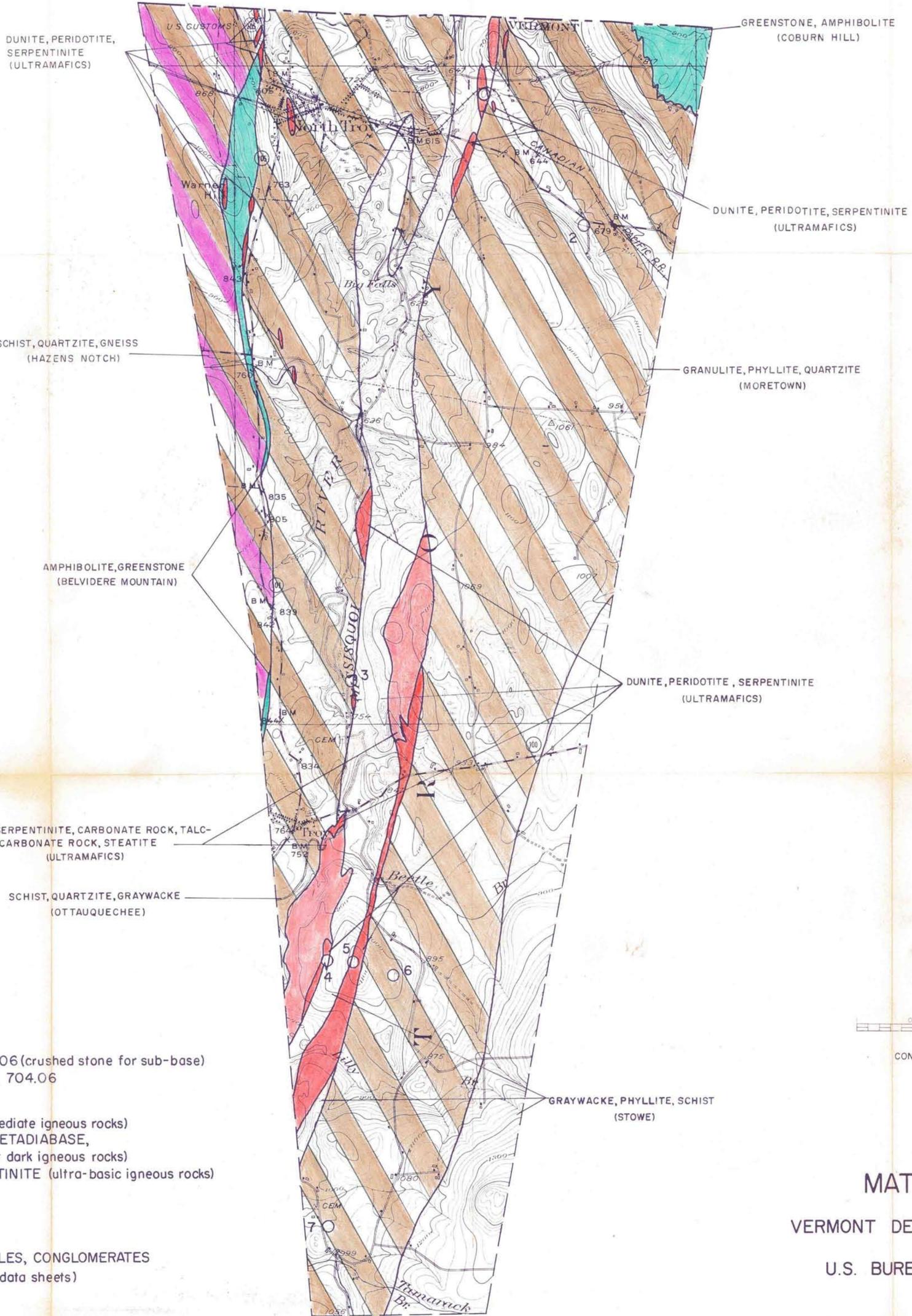
BY
 VERMONT DEPARTMENT OF HIGHWAYS
 IN COOPERATION WITH
 U.S. BUREAU OF PUBLIC ROADS

NOTE: BASED ON U.S.G.S. TOPOGRAPHIC MAPS

PLATE I GRANULAR

REVISIONS

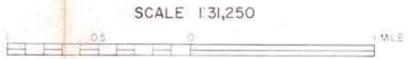
DATE	BY



LEGEND

- ROCK, ACCEPTABLE FOR SEC. 704.06 (crushed stone for sub-base)
- ⊗ ROCK, NOT ACCEPTABLE FOR SEC. 704.06
- ⊗ EXISTING QUARRY
- Orange box GRANITE TO DIORITE (light to intermediate igneous rocks)
- Green box AMPHIBOLITE, GABBRO, DIABASE, METADIABASE, GREENSTONE, TRAP DIKES (basic or dark igneous rocks)
- Red box PERIDOTITE, PYROXENITE, SERPENTINITE (ultra-basic igneous rocks)
- Purple box GNEISS
- Light brown box QUARTZITE
- Dark purple box DOLOMITE
- Blue box MARBLE, LIMESTONE
- White box SCHISTS, SLATES, PHYLLITES, SHALES, CONGLOMERATES
- 3 IDENTIFICATION NUMBER (refer to data sheets)

TROY



SCALE 1:31,250

CONTOUR INTERVAL 20 FEET

1976

ROCK MATERIALS MAP
 BY
 VERMONT DEPARTMENT OF HIGHWAYS
 IN COOPERATION WITH
 U.S. BUREAU OF PUBLIC ROADS

NOTE: BASED ON U.S.G.S. TOPOGRAPHIC MAPS

REVISIONS	DATE				
	BY				