

SURVEY OF HIGHWAY CONSTRUCTION MATERIALS
IN THE TOWN OF TUNBRIDGE, ORANGE COUNTY, VERMONT

prepared by

Engineering Geology Section, Materials Division
Vermont Department of Highways

in cooperation with

United States Department of Commerce
Bureau of Public Roads

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TABLE OF CONTENTS

Introduction

Acknowledgements 1
History 1
Inclosures 2

Location 4

County and Town Outline Map of Vermont

Survey of Rock Sources

Procedure of Rock Survey 5
Discussion of Rock and Rock Sources 6

Survey of Sand and Gravel Deposits

Procedure for Sand and Gravel Survey 8
Discussion of Sand and Gravel Deposits 9

Summary of Rock Formations in the Town of Tunbridge 10

Glossary of Selected Geologic Terms 12

Bibliography 13

Partial Specifications for Highway Construction Materials .Appendix I

Tunbridge Granular Data SheetsTable I

Tunbridge Property Owners - Granular Supplement

Tunbridge Rock Data Sheets Table II

Tunbridge Property Owners - Rock Supplement

Granular Materials Map Plate I

Rock Materials MapPlate II

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1. Various departments and individuals of the Vermont State Department of Highways, notably the Planning and Mapping Division and the Highway Testing Laboratory,
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, Bureau of Public Roads.

History

The Materials Survey Project was formed in 1957 by the Vermont State Department of Highways with the assistance of the United States Bureau of Public Roads. Its prime objective was to compile an inventory of highway construction materials in the State of Vermont. Prior to the efforts of the personnel of the Survey as described in this and other reports, searches for highway construction materials were conducted only as the immediate situation required. Thus only limited areas were surveyed, and no overall picture of material resources was available. Highway contractors or resident engineers are usually required to locate the materials for their respective projects and have samples tested by the Highway Testing Laboratory. The additional cost of exploration for construction materials is passed onto the State in the form of higher construction costs. The Materials Survey Project was established to minimize or eliminate this factor by enabling the State and its contractors to proceed with information

on material sources available beforehand. Prior 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 were designed with their intended use in mind. These maps and data sheets were devised 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 simultaneously.

Incllosures

Included in this folder are two surface-geology maps, one defining the location of tests conducted on bedrock sources, the other defining the location of tests conducted on granular materials. These maps are derived from 15-minute or 7½-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 types of the area. This information was obtained from numerous sources: Vermont Geological Survey Bulletins, Vermont State Geologist Reports, United States Geological Survey Bedrock Maps, and the Centennial Geological Map of Vermont, as well as other references.

The granular materials map depicts 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 being conducted by Professor D.P. Stewart of Miami University, Oxford, Ohio, who has been mapping the glacial features of the State of Vermont during the summer months since

1956. Further information was obtained from the Soil Survey (Reconnaissance) of Vermont conducted by the Bureau of Chemistry and Soils of the United States Department of Agriculture, and from 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. Several tests are usually conducted in each area represented by an Identification Number, the number of such tests being more or less arbitrarily determined either by the character of the material or by the topography.

Also included in this folder 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 other sources, and including an active card file compiled by the Highway Testing Laboratory. The latter information was gathered over a period of years by many persons and consequently lacks the organized approach and detail required for effective use. The information on the cards varied widely in completeness. Transfer of information from the cards to the data sheets was made without elaboration or verification. When possible, the locations of the deposits listed in the card files have also been plotted on the maps; however, some cards in the file were not used because the information on the location of the deposit was incomplete or unidentifiable. Caution should be exercised wherever this information appears incomplete. This Project does not assume responsibility for the information taken from the card files.

Work sheets contain more detailed information on each test and a detailed sketch of each Identification Number Area. The work sheets and laboratory reports are on file in the office headquarters of this Project.

LOCATION

The town of Tunbridge is located in Orange County in the east-central part of the state. It lies north of Royalton, west of Strafford, east of Randolph, and south of Chelsea. (See County and Town Outline Map of Vermont on the following page.)

It is in the Vermont Piedmont Physiographic Region. Even though the town is quite hilly, there are no major peaks. The elevation ranges from 534' on the first branch of the White River, to a maximum of 2110' on Brocklebank Hill in the northeast corner of town. Just east of the first branch of the White River, in the north part of town, there is about 1,000' of relief between the west summit of Curtis Hill, and the river.

Major drainage is southward through the central part of town in the narrow valley branch of the White River; secondary drainage is southeasterly of the third via Dickerman Brook and Russell Brook, and westward by Farnham Branch.

SURVEY OF ROCK SOURCES

Procedure for Rock Survey

The routine 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 various reference sources. Many different sources of information are utilized, 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. In other words, as complete a correlation as possible is made of all the information available concerning the geology of the area under consideration.

The field investigation is begun by making a cursory preliminary survey of the entire area. The information obtained in the preliminary survey, together with the information assimilated in the office investigation, is employed to determine the areas where testing and 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. The samples are submitted to the Material Testing Laboratory for abrasion testing both by the Deval Method (AASHO T-3) and the Los Angeles Method (AASHO T-96). It should be kept in mind that the 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 material is uniform and acceptable abrasion tests result from the chip samples, the material source is included in this report as being satisfactory.

Discussion of Rock and Rock Sources

The town of Tunbridge is underlain predominantly by the limestone and phyllite of the Waits River formation. The western one fifth of the town is underlain by the schist and quartzite of the Gile Mountain formation. A small area along the eastern edge of the northern boundary of the town is mapped as undifferentiated granitic rock. No outcrops were found, but there were many granitic boulders encountered by members of the survey party.

Rocks of the Waits River and Gile Mountain formations are exposed frequently, but would generally be unsatisfactory for Item 204, Sub-base of Crushed Rock.

The only area sampled was a hill south of the junction of Town Highway No. 32 with Town Highway No. 39. The rock is a dark blue-gray weathered limestone which is light gray to light blue-gray on fresh surface. There appears to be zones of quartzose material, as the rock varies from soft to hard. A phyllitic bed, about 3'-5', occurs on the east side of the hill, near a mass of highly contorted quartz blebs near the bottom of the outcrop. The rock from this location passed the abrasion requirements of AASHO T-3. One sample failed the abrasion requirements of AASHO T-96 with a wear of 47.7%.

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 possible potentially productive areas as indicated from various references. Of these references, the survey of glacial deposits mapped by Professor Stewart proves to be valuable, particularly 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. In addition, the locations of existing pits are mapped when known. The locations in which samples were taken by other individuals are noted and mapped when possible.

The field investigation is begun by making a cursory preliminary survey of the entire town. All pits and other areas which show physiographic features that give evidence of glacial or fluvial deposition are noted. These locations are later investigated by obtaining samples of pit faces and other exposed materials. Tests pits, dug with a backhoe to a depth of approximately 11 feet, are also sampled. The samples are submitted to the Materials Testing Laboratory where they are tested for gradation and stone abrasion, the latter by the Deval Method (AASHO T-4).

Discussion of Sand and Gravel Deposits

Granular materials in the town of Tunbridge consist mainly of kame terrace gravels and sand, and some glaciolacustrine sands. There are no outwash deposits mapped in Tunbridge.

Gravels which are acceptable for Item 201, Sub-base of Gravel, were sampled in Map Identification Numbers 1, 13, 16, 23, and 24; all of which are pits in kame terrace deposits along the valley of the first branch of the White River.

Sands which are acceptable for Item 202, Sub-base of Sand, were sampled in Map Identification Numbers 1, 2, 8, 9, 11, 13, 15, 16, 18, 21, 22, 24, 25 and 26. Most of these sand sources were mapped as kame terrace or fluvio-glacial origin. Pits are located in Map Identification Numbers 1, 2, 9, 13, 15, 16, 21, 22, 24, and 25. Map Identification Numbers 11 and 22 were out of the mapped area designated by D. P. Stewart as kame terrace. Number 18 was just within a lacustrine sand deposit. Map Identification Number 21 is a pit in a minor kame terrace deposit.

Most of the gravel and sand deposits are in or adjacent to the valley of the first branch of the White River.

SUMMARY OF ROCK FORMATIONS IN THE TOWN OF TUNBRIDGE

Gile Mountain formation: Quartz-mica schist, garnetiferous phyllite, micaceous quartzite, and minor siliceous marble.

Undifferentiated Granitic Rock: New Hampshire plutonic series. Most bodies emplaced during the regional metamorphism or shortly thereafter. Sillimanite and locally cordierite occur near many contacts in zones too narrow to show on map.

Waits River formation: Blue-gray recrystallized impure limestone, highly siliceous, garnetiferous phyllite, tan quartzite, quartz-biotite schist, and quartz-calcite schist.

GLOSSARY OF SELECTED GEOLOGIC TERMS

Alluvial - Pertaining to material carried or deposited by running water.

Breccia - A rock consisting of consolidated angular rock fragments larger than sand grains. There may be fault, talus, and volcanic breccia.

Calcareous - Pertaining to or containing calcium carbonate.

Carbonate Rocks - Rocks composed of the molecule CO_3 combined with calcium, magnesium, etc. Includes limestones and dolomites.

Delta - A predominantly alluvial deposit built by a stream entering the sea or other body of water. Usually it has the form of the Greek letter delta.

Dolomite - A rock consisting predominantly of the mineral calcium magnesium carbonate (dolomite), containing carbon dioxide 47.7%, lime 30.4%, magnesia 21.9%.

Esker - A long, narrow winding ridge of mixed sand and gravel deposited by a stream of meltwater flowing in a tunnel or crevasse in stagnant glacial ice.

Gneiss - Originally meaning a more or less banded metamorphic rock with the mineral composition of granite. The term now designates a foliated metamorphic rock with no specific composition implied, but having layers that are mineralogically unlike and consisting of particles visible to the eye. Usually gneiss displays an alternation of granular mineral and schistose minerals with the rock tending to split along the schistose bands.

Ice Contact - Refers to sediments which have accumulated in contact with stagnant or wasting glacial ice. They assume the varied topographic forms expressed by eskers, kames, and kame terraces.

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

Kame Terrace - Stratified sand and gravels deposited by streams between a glacier and an adjacent valley wall.

Kame Moraine - An accumulation of material deposited directly from the frontal portion of the glacial ice and partially sorted by water action. The deposits may take the form of coalescent knolls, hummocks, and ridges.

Limestone - A bedded sedimentary rock consisting chiefly of calcium carbonate. The most important and widely distributed of the carbonate rocks.

Marble - A soft, white rock being the metamorphic form of limestone in which the calcium carbonate (calcite) is recrystallized and the calcite crystals are overgrown and interlocked with additional calcite. Commercially it is a trade name applied to any carbonate rock of good color and texture and hard enough to take a polish.

Metamorphic Rocks - Rocks that owe their distinctive characteristics to the transformation of preexisting rocks through intense heat or pressure or both.

Phyllite - A fine-grained, foliated metamorphic rock intermediate between the mica schists and slates into which it may grade. The foliation is made possible by the development of a large amount of potash mica, sericite, which also gives the rock a distinctive silvery appearance.

Physiographic - Pertaining to the physical divisions of the earth.

Quartzite - A compact metamorphic rock composed of quartz grains so firmly cemented that fracture takes place across the grains and the cementing material with equal ease.

Siliceous - Containing or pertaining to silica (silicon dioxide, SiO_2).

Slate - A very fine-grained homogeneous metamorphic rock which splits smoothly along parallel cleavage planes and yields roughly similar slabs.

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

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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 in April, 1964.

Item 105, Granular Borrow

"Article 105.02 - Materials. The granular borrow shall be obtained from approved sources and shall consist of satisfactorily graded, free-draining, hard durable stone and coarse sand practically free from loam, silt, clay, and organic matter.

"The sand portion (material passing the No. 4 screen) shall have not more than ten percent (10%) passing the No. 270 mesh sieve and shall show a color of not more than three and one-half ($3\frac{1}{2}$) as determined by the colorimetric test described in AASHO Method of Test, Designation T-21.

"When used in connection with fine grading or in fills where piling is to be driven, the granular material shall all pass the nine-inch (9") square-opening screen."

Item 201, Sub-base of Gravel

"Article 201.02 - Materials. The gravel shall consist of material reasonably free from silt, loam, clay or organic matter. It shall be obtained from approved sources and meet the following requirements:

"Not less than forty percent (40%) stone shall be retained on No. 4 sieve.

"The percent of wear shall be not more than twenty-five (25) when tested by laboratory methods using Method T-4 or more than forty (40) when tested by AASHO Method T-96.

"The stone portion of the gravel shall be uniformly graded from coarse to fine, and the maximum-size particles shall not exceed two-thirds (2/3) of the layer being spread.

"The sand portion, when tested by laboratory methods using Method AASHO T-27, shall meet the grading requirements set up in the following table:

Minimum Percent of Stone	Percent Passing Square Openings	Percent Passing Square Openings
	No. 100	No. 270
40	0-15	0-3
50	0-15	0-4
60	0-15	0-5
70	0-15	0-6

"The sand shall show a color of not more than three and one-half (3½) as determined by the colorimetric test described in the AASHO Method of Test, Designation T-21."

Item 202, Sub-base of Sand

"Article 202.02 - Materials. The sand shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and meet the following requirements:

"The sand, when tested by laboratory methods using Method AASHO T-27, shall meet the grading requirements set up in the following table:

Square Openings	Percent Passing
1½"	95-100
5/8"	80-100
No. 4	70-100
No. 100	0-18
No. 270	0-5

"The sand shall show a color of not more than three and one-half (3½) as determined by the colorimetric test described in the AASHO Method of Test, Designation T-21."

Item 204, Sub-base of Crushed Rock

"Article 204.02 - Materials. The materials for sub-base, filler, and sand cushion shall be obtained from approved sources and meet the following requirements:

A - Crushed Rock. "The crushed rock shall be uniformly graded, crusher-run material and shall be free from dirt. The ledge from which this material is obtained shall be stripped and cleaned before blasting. Conical stockpiling, or any other method of stockpiling which causes segregation of aggregates, will not be permitted.

"The crushed rock, when tested by laboratory methods using Method AASHO T-27, shall meet the grading requirements set up in the following table:

Square Openings	Percent Passing
4"	95-100
1½"	25-50
No. 4	0-15

"The percent of wear shall not be more than eight (8) when tested by laboratory methods using Method AASHO T-3 or more than forty (40) when tested by AASHO Method T-96."

Item 205, Sub-base of Crushed Gravel

"Article 205.02 - Materials.

A - Crushed Gravel. "The crushed gravel shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and produced by a crusher adjusted to deliver a product uniformly graded from coarse to fine.

"When tested by laboratory methods using Method AASHO T-27, it shall meet the grading requirements as set forth below:

		Square Openings	Percent Passing
Sub-base of Crushed Gravel	Coarse-Graded	4"	100
	Item 205-A	No. 4	25-50
	Fine-Graded	1½"	95-100
	Item 205-B	No. 4	30-60

"At least thirty percent (30%) by weight of the stone content of the crushed gravel, that is, the material retained on the No. 4 screen, shall have a minimum of one (1) fractured face as determined by actual count from the sample submitted to the laboratory.

"The percent of wear shall not be more than twenty (20) when tested by laboratory methods using Method AASHO T-4 or more than thirty-five when tested by AASHO Method T-96.

B - Sand. "The sand content of the crushed gravel, that is the material passing the No. 4 screen, when tested by laboratory methods using Method AASHO T-27, shall meet the grading requirements set up in the following table:

Square Openings	Percent Passing
No. 100	0-18
No. 270	0-8

"The sand shall show a color of not more than three and one-half ($3\frac{1}{2}$) as determined by the colorimetric test described in the AASHO Method of Test, Designation T-21."

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 1

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passed VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
1	1	1969	1.5-14.5	0-1.5	Yes	93.1	92.1	84.1	4.2	1.0 0.8*	1½	-----	Gr. Borr. (Sand)	<p>Owner: Wayland Austin.</p> <p>Area is a granular terrace which has 2 small pits on its west slope. Area is 0.05 mile east of a ford in the first branch of the White River, and 0.1 mile west of Vt. Route 110.</p> <p>Test #1 was a handsample on northeast corner of north face of south pit, which is just east of powerline.</p> <p>Log of Test: 0'-1.5', ov.; 1.5'-14.5', pebbly sand. Bottoms in fine sand. Some stones show in floor and near a tiny diggings below, and west of pit.</p>
	2	1969	1-6.5	0-1	Yes	88.6	61.9	34.7	18.0	6.0	1½	28.2%	Gr. Borr. (Grav.)	<p>Test #2 was dug in floor, 20' south of access road, and east of power line. Beds dip down to east. Gravel is higher on west side of hole, and dips below sand at east end of hole.</p> <p>Log of Test: 0'-1', ov.; 1'-6.5', gravel. Boulders at 6.5'.</p>

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 2

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHC T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
	3	1969	0.5-14	0-0.5	Yes	100	94.4	75.2	5.3	1.0 0.8*	1½	-----	Sand	Test #3 was a handsample of face of north pit, 45' from north end. There was a pebbly cobbly sand with two gravelly layers about 1-foot thick. There are two piles of cobbles and boulders in the pit. North pit is 135' north of the south pit.
	4	1969	23-30	-----	Yes	100	91.3	78.3	10.2	4.0 3.1*	1	-----	Sand	Test #4 was dug in lower part of face below Test #3, 60' north of access road. Log of Test: 0'-1.5', ov., 23'-30', interbedded pebbly sands, cobbles, and sand layers. Bottoms in fine gravel.
	5	1969	1.5-10	0-1.5	Yes	100	95.3	91.3	4.6	1.5 1.4*	1	-----	Sand	Test #5 was dug in top of terrace, 150' south of woods. Log of Test: 0'-1.5', ov.; 1.5'-3.5', sand; 3.5'-5', fine gravel; 5'-7', pebbly sand; 7'-10', sand. Material looks good. There is a layer of fine gravel with a few small cobbles.
	6	1969	1-10	0-1	Yes	73.5	64.9	54.7	8.0	2.3	1½	30.0%	Gr. Borr. (Grav.)	Test #6 was dug on terrace, 100' S. 30° W. of Test #5. Log of Test: 0'-1', ov.; 1'-3', fine sand; 3'-4', pebbly sand or fine gravel; 4'-10', gravel with pebbly sand.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 3

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	7	1969	3.5-8	0-3.5	Yes	88.1	77.8	55.5	14.0	5.0	1	34.9%	Gr. Borr. (Grav.)	Test #7 was dug in floor, 40' west of Test #4. 0'-3.5', ov.; 3.5'-8', gravel. Boulders at 8'. Overburden was due to bulldozer having worked over the ground.
	8	1969	1.5-8	0-1.5	Yes	57.3	44.4	34.2	12.0	3.0	1	23.7%	Gravel	Test #8 was dug atop river bank 150' west southwest of Test #7, and 30' northeast of telephone pole near small pine. Log of Test: 0'-1.5', ov.; 1.5'-8', gravel. Gravel is rather coarse and has some small boulders. Bottoms in silt at 8'.
2	1	1969	0-17	-----	Yes	100	90.8	82.2	6.6	1.0	1	-----	Gr. Borr. (Sand)	Owner: Wayland Austin. Area is large pit and its easterly extension, east across Vt. Rte. No. 110 from farm buildings, across stream ford. Area is south of Map Identification No. 1 and is in the same terrace. Pit shows mostly sand with some cementation, and pebbly or gravelly sands. Test #1 was a handsample on upper part of north face on east end of a broad lobe. Top 2' is pebbly gravel over beds of fine sand and pebbly coarse

*Percentage of Total Sample

TABLE I

TUNERIDGE GRANULAR DATA SHEET NO. 4

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	2	1969	0.5-17	0-0.5	Yes	100	98.9	97.4	5.8	1.5 1.4*	1	-----	Sand	sand to at least 17'. Some sand beds are partly cemented. Test #2 was a handsample, 55' east of Test #1, on north-east lobe. A lens of very fine gravel about 3' thick overlies beds of coarse sand, fine sand, and pebbly sand. There is some cementation. The terrace has 50' extension to the east and northeast. The steep west slope of the terrace limits the west extension. There is much sloughing on faces.
	3	1969	1-10.5	0-1	Yes	100	95.0	86.0	9.5	3.5 3.0*	1	-----	Sand	Test #3 was dug on terrace, 60' northwest of dead apple tree, and 60' east of Test #1. Log of Test: 0'-1', ov.; 1'-10.5', sand with some pebbles.
	4	1969	29-34	0-2	Yes	100	99.2	86.0	3.4	1.0 0.9*	1	-----	Sand	Test #4 was dug on lower north face of pit. Log of Test: 0'-2', ov., slough; 2'-34', pebbly coarse sand. Hole caved in a lot.
	5	1969	1-8	0-1	Yes	100	95.3	87.9	3.5	1.0 0.9*	1	-----	Sand	Test #5 was dug in floor at north end of pit. Log of Test: 0'-1', ov.; 1'-8', beds of sand, silt, fine gravel, and pebbly sand. Beds

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 5

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	6	1969	1.5-10	0-1.5	Yes	100	92.3	76.1	1.5	0.5 0.4*	1	-----	Sand	are nearly horizontal. Stopped digging at 3' in same material due to excessive caving-in. Test #6 was dug in floor, 125' south southwest of Test #5, and near small ramp up to telephone poles. Log of Test: 0'-1.5', ov.; 1.5'-3', very fine sand; 3'-8', interbedded coarse sand, pebbly sand, and silt seams; 8'-9', pebble layer; 9'-10', sand. Material looks good.
	7	1969	1-10	0-1	Yes	100	90.2	85.6	10.3	1.5 1.3*	1	-----	Sand	Test #7 was dug in floor, 80' S. 50° E. of Test #6, 10' west of face in southeast part of pit. Log of Test: 0'-1', ov.; 1'-10', beds of pebbly, silty, and coarse sand. Bottoms in sand.
3	1A	1969	3-7	0-3	No	100	----	64.4	30.6	----	----	-----	---	Owner: Mrs. Etta Giles. Area is pasture terrace and pit, west of Vt. Rte. No. 110 at point 0.20 mile north of Town Highway No. 7. Test hole #1A was dug near north end of pasture terrace, 120' west; of pit face of north end of pit in Map Identification No. 3, and 55' south of

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 6

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	1B	1969	7-10	----	No	100	100	98.8	81.0	22.0	1½	-----	-----	wire fence. Log of Test #1A: 0'-3', ov.; 3'-7', silt. Soil classification is A-1-b, silty sand. Test #1B, from 6'-10', was fine sand.
	2	1969	3-10	0-3	No	100	94.0	85.0	45.0	22.3	1	-----	-----	Test #2 was dug on top of small rise in south end of lower level of pasture terrace; 60' north of fence and tree line, and 450' S 35° W. of Test #1. Log of Test: 0'-3', ov.; 3'-6', dirty fine gravel; 6'-10', silt. Rock crops out just a bit west of the test hole.
	4	1969	2.5-11	0-2.5	Yes	75.3	61.9	47.6	21.0	0.0	1	-----	Gr. Borr. (Grav.)	Test #4 was a hand sample on upper west face, just behind pile of crushed gravel. This sample represents extension into flat meadow. Log of Test: 0'-2.5', ov.; 2.5'-5', cobbly gravel with silt and soft, poorly sorted stones; 5'-8', hard-packed, very fine gravel; 8'-11', fine sand with a silt seam. Bottoms at 11' in pebbly sand concealed by slough. Face is 36' high.

*Percentage of Total Sample

TABLE I

TUNDRIDGE GRANULAR DATA SHEET NO. 7

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	5A	1969	2.5-12.5	0-2.5	Yes	88.4	73.8	57.2	18.0	5.0	1	32.0%	Gr. Borr. (Grav.)	Test #5A was a handsample on top part of west face in center of pit. The beds under the gravel dip to the south. Log of Test: 0'-2.5', ov.; 2.5'-5'; silty cobbly gravel; 5'-12.5', beds of pebbly gravel, gravelly sand, and fine sand with pebbles.
	5B	1969	12.5-18	----	Yes	100	98.1	90.4	31.6	8.0 7.2*	1	----	Gr. Borr. (Sand)	Test #5B was handsampled on and angle down middle of face from upper southwest to lower northeast. Thin beds of silt-clay, medium sand, and fine sand with some cementation. These go to about 18'.
	5C	1969	18-36	----	Yes	78.6	70.6	59.3	17.0	4.0	1	----	Gr. Borr. (Grav.)	Below the sands are beds or lenses of fine and cobbly gravels that are silty and poorly sorted. From 18'-36' was handsampled as test #5C, at a point 10' north of Test #5B. Bottom of Test #5C is pebbly, very cobbly sand. A little north of Test, cobbly, sandy gravel goes to floor.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 8

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
						6	1969	2-25	0-2	Yes				
7A	1969	1.5-14.5	0-1.5	Yes	100	100	99.0	28.7	3.0 3.0*	1	-----	Gr. Borr. (Sand)	Test #7A was handsample from a small pit opened in south side of terrace. A thin, 2'-6' cap of poorly sorted, silty gravel overlies fine sand. Over half of face height is slough. There is medium or fine sand to at least 14.5'.	
7B	1969	12-28	0-1.5	Yes	100	100	100	28.0	4.0 4.0*	1	-----	Gr. Borr. (Sand)	Test #7B was handsampled east of and below Test #7A on east end. Material is stratified fine to medium sands, some of which are cemented. Slough occurs 4' above floor level.	

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 9

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color Abrasion Passes		Remarks	
						1½"	5/8"	#4	#100	#270	AASHO T-21	AASHO T-4-35		VHD Spec.
	7C	1969	28-34	----	Yes	100	100	100	46.0	7.0 7.0*	1	-----	Gr. Borr. (Sand)	Test #7C was dug below #7B in silty fine sand with a 4-inch seam of brown silt. The Test bottomed in cemented material. The floor was not sampled because much bulldozing had been done. There is a marshy area a little below floor level, and to the south.
4	1	1969	0.5-12	0-0.5	Yes	59.6	59.6	51.0	21.0	5.0	1	-----	Gr. Borr. (Grav.)	Owner: Mrs. Henry Stafford Area is small pit southwest of junction of Town Highway No. 7 with Vt. Rte. 110. The southward extension of the pit is a terrace which the owner did not want sampled. Test #1 was a hand sample of the lower south face. Log of Test: 0'-0.5', ov.; 0.5'-4', gravelly sand; 4'-7', gravel; 7'-10', pebbly sand; 10'-12' bottoms in clean pebbly sand. The gravel seems to thicken to the west.
	2	1969	1-10.5	0-1	Yes	54.5	44.7	37.0	22.0	6.0	1	-----	Gr. Borr. (Grav.)	Test #2 was a hand sample taken on west face of pit. Log of Test: 0'-1', ov.; 1'-10.5', sandy gravel with some silt seams. The test bottoms in sand with pebbles. Here, the gravel dips to the west and north.

* Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 10

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
5	1	1969	3-19	0-3	Yes	100	96.0	85.7	14.6	7.0 6.0*	1	-----	Gr. Borr. (Sand)	Owner: Mrs. Henry Stafford Area is a small, old pit on the southwest side of farm road, west of Town Highway No. 23 and Vt. Rte. 110. There is much fine silty sand overlying some pebbly sand. Log of Test #1: 0'-3', clayey ov.; 3'-18', pebbly sand, with some interbedded silt; test bottoms in silt at 19'. Area does not look very good.
6	1	1969	1-23	0-1	Yes	90.6	72.7	63.0	22.0	8.0	1	23.5%	Gr. Borr. (Grav.)	Owner: Roger Welch Area is small pit and terrace on east side of river, 0.3 mile north of Town Highway No. 25, and just south of a small brook. The pit is 50' x 25', and is at the north end of a terrace. Test #1 was dug by hand on south face of pit. Log of Test: 0'-1', ov.; 1'-23' interbedded gravel and sand lenses. Test bottoms in sand at 23'. There is much sloughed material on lower face. The pit floor has water on the surface.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 11

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
7	1A	1969	1.5-11	0-1.5	Yes	100	89.0	77.2	39.0	14.0	1	-----	-----	Southeast of the pit is a wooded ridge which may be granular. Owner: Arnold Clark Area is a small pit on east side of pasture knoll, 0.1 mile west of Clark's house on Vt. Rte. 110, 0.4 mile north of Town Highway No. 5. Face shows only hard-packed material with poor sorting. The boulders are very soft and much weathered. Material does not look good. Test #1A was a handsample on upper part of west face. Log of Test: 0'-1.5', ov.; 1.5'-11', till.
	1B	1969	11-18	----	Yes	100	100	29.3	25.0	8.0	1	----	Gr. Borr.	Test #1B was a handsample on lower part of west face. Log of Test: 11'-18', till.
8	1	1969	1.5-8	0-1.5	No	97.5	88.7	69.5	4.9	3.0 2.1*	1	----	Gr. Borr. (Sand)	Owner: Forest Barnaby. Area is a large field which is the eastward extension of a large pit, Map Identification No. 9; and is northeast of the north end of Town Highway No. 65. Test #1 was handsampled

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 12

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft.)	Exist- ing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
	2	1969	1.5-10	0-1.5	No	100	100	96.2	24.1	4.0	2	-----	Gr. Borr. (Sand)	from a bulldozed trench at north edge of hill, just south of planted pines. Log of Test: 0'-1.5', ov.; 1.5'-8', fine gravel. Test bottoms in silt. Test #2 was dug 100' S. 30° E. of Test #1.
	3A	1969	2-5	0-2	No	100	91.6	67.6	7.4	4.0	2	-----	Gr. Borr. (Sand)	Log of Test: 0'-1.5', ov.; 1.5'-8', brown sand; 8'-10', light brown sand. Test hole #3 was dug 75' N. 20 W. of elm tree near east end of field.
	3B	1969	5-10	----	No	100	99.3	93.6	11.2	3.0	2	-----	Sand	Log of Test: 0'-2', ov.; 2'-5', fine gravel. The stones are mostly ½" to 1", with few larger.
	4	1969	1-8.5	0-1	No	100	100	100	92.7	----	--	-----	----	Log of Test #3B: 5'-10', sand with stones. Test #4 was dug on rise at east edge of field, above and just north of gully.
	5	1969	1-5	0-1	No	100	100	100	99.0	----	--	-----	----	Log of Test: 0'-1', ov.; 1'-8.5' silt to clay that was classified as an A-4 silt. Test #5 was dug near north end of field, 220' due north of Test #4A.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 13

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	6	1969	7-10	0-2	No	100	100	99.6	41.8	9.0	1	-----	Gr. Borr. (Sand)	0'-1', ov.; 1'-5', silt to clay that was classified as an A-4 silt. Test #6 was dug 400' S. 50° W. of Test #5. Log of Test: 0'-2', ov.; 2'-7', silt to clay; 7'-10', sand.
9	1A	1969	2.5-24	0-2.5	Yes	77.0	61.3	48.4	14.0	3.0	1½	29.7%	Gr. Borr. (Grav.)	Owner: Forest Barnaby Area is a large working pit east of cemetery at north end of Town Highway No. 65. Test #1A was a handsample on upper part of southeast pit face, 105' south of the north face of pit. Log of Test: 0'-2.5', ov.; 2.5'-24', fine gravel and sand beds which dip to east, and are pretty well sorted.
	1B	1969	24-32	----	Yes	72.2	54.5	42.7	16.0	5.0	1	37.0%	Gr. Borr. (Grav.)	Test #1B was handsampled below Test #1A. Log of Test: 24'-32', poorly sorted gravels which are coarser than those in Test #1A. The section below 32' is heavily sloughed.
	1C	1969	36-42	----	Yes	100	98.2	91.5	7.3	1.5	1	-----	Sand	Test #1C was dug on lower face below the dead elm atop the face.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 14

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color	Abrasion	Passes	Remarks
						1½"	5/8"	#4	#100	#270	AASHO T-21	AASHO T-4-35	VHD Spec.	
	2	1969	0-15	-----	Yes	77.1	67.8	56.7	6.0	2.0	1	30.6%	Gr. Borr. (Grav.)	Log of Test: 36'-47', sand with some silt seams and a few pebbles. There were two beds each two feet thick, of crossed-bedded sand. Test #2 was a handsample on 15-foot south face. There was 7' of gravel over 8' of pebbly sand and sand.
	3	1969	2-19	0-2	Yes	51.2	40.8	30.4	12.0	4.0	1	30.9%	Gr. Borr. (Grav.)	Test #3 was a handsample at corner of active lobe on east face, 50' north of Test #2, and about 200' south of Tests #1A-1B-1C. The sample was hard-packed gravel with cobbles.
	4A	1969	2-16	0-2	Yes	100	100	98.5	8.9	2.5 2.46*	1	-----	Sand	Test #4A was a handsample on east face, 35' north of Test #3. Upper face appears to be pebbly sand with a small lens of gravel. Log of Test #4A: 0'-2', ov.; 2'-16', pebbly sand with a small lens of gravel.
	4B	1969	16-24	---	Yes	85.1	68.4	47.3	7.0	2.0	1	29.2%	Gr. Borr. (Grav.)	Test #4B was a handsample on lower face. Log of Test: 16'-22', cemented fine gravel; 22'-24', pebbly sand. Most

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 15

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
10	1	1969	2-19	0-2	Yes	85.9	69.6	52.1	10.0	3.0	1	36.4%	Gr. Borr. (Grav.)	<p>of the good materials is in the active part of pit. No further samples were taken due to rapid exploitation of the area by the town, as of 6/4/69.</p> <p>Owner: Carlyle Whitney</p> <p>Area is large deep pit southeast across Town Highway No. 65 from cemetery, and just south of Map Identification No. 9. The pit is narrow and has much slough. Mostly sand on upper east face. Mainly gravel on lower faces. The gravel on the west side of pit is limited by the west slope of feature. Up to 20' of silt or clay, and strippings occur atop the low southeast face.</p> <p>Test #1 was a handsample on lower southeast face. The test was mainly stony sand, with about 4' of gravel.</p>
	2	1969	1-14	0-1	Yes	66.9	48.3	30.6	14.0	4.0	1	34.0%	Gr. Borr. (Grav.)	<p>Test #2 was a handsample on low west face, 75' north of Test #1. Material is a very stony gravel with cobbles. About 30'-40' extension to west, then feature drops to a small, flat terrace. The west face is 16'-18' high.</p>

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 16

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	3A	1969	2-22	0-2	Yes	79.1	66.9	58.7	21.0	5.0	1	20.6%	Gr. Borr. (Grav.)	Test #3A was a handsample on high part of east face. Top 6' is fine sand over pebbly sand, going to gravel and pebbly sand.
	3B	1969	22-42	---	Yes	100	100	95.6	18.2	2.5 2.4*	1½	----	Gr. Borr. (Sand)	Test #3B begins in clean, coarse gray sand, then becomes medium or fine. An exposed section of fine, cemented sand occurs from 32'-38', and is underlain by pebbly and coarse sand.
	3C	1969	42-58	---	Yes	83.7	71.5	56.4	10.0	3.0	1	33.4%	Gr. Borr. (Grav.)	Test #3C was handsampled from 42'-58', and was sand with pebbles. This interval contained a 5-foot thick bed of gravel.
	3D	1969	75-85	---	Yes	89.1	75.1	53.3	17.0	5.0	1	34.6%	Gr. Borr. (Grav.)	Test #3D was dug by backhoe on the lower face. Log of Test: 75'-85', somewhat cemented beds of fine gravel, sand, and silt.
	4	1969	3-19	0-1	Yes	76.7	61.1	45.5	9.0	3.0	1	29.0%	Gr. Borr. (Grav.)	Test #4 was a handsample taken on small face in north-west corner of pit just south of property line. Log of Test: 0'-1', ov.; 1'-3', not reachable; 3'-19' interbeds of coarse sand, fine gravel, and

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 17

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
	5	1969	0.5-6.5	0-0.5	Yes	80.7	69.6	41.2	8.0	3.0	1	29.6%	Gr. Borr. (Grav.)	gravel. Test Bottoms in sandy gravel. Test #5 was dug in floor, 30' south of Test #3D. Log of Test: 0'-0.5', ov.; 0.5'-6.5', gravel. Quite a bit of cementation. Beds dip gently to the south. Bottoms at 6.5' in bouldery gravel and water.
11	1	1969	1.5-3.5	0-1.5	No	93.5	91.4	77.9	12.5	5.0 3.9*	2½	-----	Gr. Borr. (Sand)	Owner: Carlyle Whitney Area is terrace above Nelson Whitney's barn west of Vt. Rte. 110, and north of brook north of Town Highway No. 4. Test #1 was dug by hand on north end of terrace. Log of Test: 0'-1.5', ov.; 1.5'-3.5', brown pebbly sand.
	2	1969	1.5-5	0-1.5	No	84.9	70.4	57.0	19.0	6.0	1½	25.5%	Gr. Borr. (Grav.)	Test #2 was dug 125' N. 10° W. of Test #1. Log of Test: 0'-1.5', ov.; 1.5'-2.5', pebbly sand; 2.5'-5', gravel; 5'-9', silt.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 18

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis					Color AASHO T-21	Abrasion Passes		Remarks
						% Passing						AASHO T-4-35	VHD Spec.	
						1½"	5/8"	#4	#100	#270				
	3	1969	1.5-9	0-1.5	No	100	100	89.1	17.8	3.0 2.7*	1½	-----	Sand	Test #3 was dug in south end of pasture terrace, 20' north of fence. Log of Test: 0'-1.5', ov.; 1.5'-5', fine sand; 5'-6', pebbles; 6'-9', silt.
12	1	1969	1.5-9	0-1.5	Yes	100	100	100	96.0	40.0	1	-----	-----	Owner: Carlyle Whitney Area is a small bank in base of knolls north of cornfield, and northeast in Map Identification No. 13. Small (15' wide x 12' high) opening at south base of knoll exposes very fine material. A bulldozer scar down the face shows silts. Test #1 was a handsample on face of bank. Material is silt or silty sand, going to very fine sand at 8.5'. Test #2 was dug in floor. Log of Test: 0'-1', ov.; 1'-7', silty sand or silt.
	2	1969	1-7	0-1	Yes	100	100	100	96.0	52.0	1	-----	-----	
13	1A	1969	1-13.5	0-1	Yes	76.1	61.9	54.0	11.0	2.0	1½	23.3%	Gravel	Owner: Carlyle Whitney Area is small bank on west edge of terrace, and small high pit above and northeast of bank, east of Town Highway No.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 19

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis					Color T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
	1B	1969	13.5-18.5	-----	Yes	86.1	65.7	47.2	3.0	3.0	1	22.1%	Gravel	65, and south of Map Identification No. 10. Tests #1A, 1B and 2 were in tiny bank in the terrace west of, and below pasture and cornfield. Test #1A was a handsample on its east face. One foot of overburden, then 2' to 4' of sand overlays, 6'-8' of gravel. Fine gravel going into pebbly sand at 12'. Test #1B was dug on lower face. Log of Test: 13.5' - 18.5', interbeds of pebbly sand, fine gravel, and sand.
	2	1969	1-8	0-1	Yes	100	99.2	95.5	12.4	3.0	1	-----	Sand	Test #2 was dug in floor, 15' northwest of Test #1B. Log of Test: 0'-1', ov.; 1'-3', fine gravel; 3'-8', sand. Test bottoms at 8' in sand and water. The pit floor is very near the level of the stream, 120' away.
	3A	1969	1-16	0-1	Yes	90.6	83.7	75.3	10.5	4.0	1 1/2	-----	Gr. Borr. (Sand)	Test #3A was a handsample on top of south face of upper pit. From 1'-4' is gravel; going to pebbly sand to 6', and

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 20

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	3B	1969	26-31	----	Yes	97.0	89.3	78.9	4.7	1.5 1.2*	1	-----	Sand	then to medium sand. Test #3B was dug below and slightly west of Test #3A. 26'-31', pebbly sand. From 16'-26' there was too much slough to sample in-place material. There seems to be a boulder layer near floor level in north end of pit.
	4	1969	1-10	0-1	Yes	100	98.4	93.6	16.3	3.0 2.8*	1	-----	Sand	Test #4 was dug in floor at south end of pit, 50' south of Test #3B. Log of Test: 0'-1', ov.; 1'-3.5', pebbly sand; 3.5'-10', sand. The sand looks pretty good.
14	1	1969	2.5-18	0-2.5	Yes	100	100	92.8	18.6	3.0 2.8*	1	-----	Gr. Borr. (Sand)	Owner: Richard Barnaby Area is a small bank north of State Aid Highway No. 1, and east of Town Highway No. 65. A sloughed bank with pebbly sand, silty cobbly gravel, and sand. Not much has been removed. There is sand on southwest side, and gravel near middle. Face is 32'-35' high. Beds dip steeply to south or southwest. The sands on the southwest end of face overlie gravels in center part of face. The sands and upper layers of

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 21

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color		Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270	T-21	T-21			
	2	1969	2.5-21.5	0-2.5	Yes	83.9	65.1	44.9	18.0	2.0	1	-----	Gr. Borr. (Grav.)	<p>gravel are clean. Lower gravels are fine to cobbly, and very silty. The stones seem very soft. The top of bank is wooded and very near the owner's house, which is why he does not want the face worked any further to the east. The feature is probably a kame terrace.</p> <p>Test #1 was a handsample on upper part of southeast face. Log of Test: 0'-2.5', ov.; 2.5'-18', sand, pebbles, and gravelly sand interbeds. Test bottoms in fine gravel.</p> <p>Test #2 was a handsample from face just northeast of Test #1. Log of Test: 0'-2.5', ov.; 2.5'-21.5', fine gravel over silty gravel. Face bottoms in silty gravel.</p>	
	3	1969	25-35	-----	Yes	100	100	99.2	33.7	7.0 6.9*	1	-----	Gr. Borr. (Sand)	<p>Test #3 was dug on the lower face below Test #2. Log of Test: 0'-2.5', ov.; 25'-27', fine gravel; 27'-35' sand. Some silt seams encountered.</p>	

*Percentage of Total Sample

TABLE I

TUNBRIDGE DATA SHEET NO. 22

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color Abrasion		Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270	T-21	T-4-35		
	4	1969	2.5-10	0-2.5	Yes	100	100	100	34.0	5.0	2	-----	Gr. Borr. (Sand)	Test #4 was dug in floor just east of road, and 15' west of Test #3. Log of Test: 0'-2.5', ov.; 2.5'-10', sand.
15	1A	1969	2-16	0-2	Yes	100	98.6	96.2	7.7	2.0	1	-----	Sand	Owner: Richard Barnaby Pit is in two levels. It is on the east side of Town Highway No. 65, northwest of and below State Aid Highway No. 1. The north, lower level is used to store screened material. Upper level has high east face. The wooded bluff in which pit is dug trends north-south but curves to the northeast. The owner does not want high face extended, as his house is on top, 70' east of the face. Sand, with some pebbles, near the top. Quite a lot of slough, which has several cobbles. Test #1A was a handsample on east face. Log of Test: 0'-2', ov.; 2'-16', sand with pebbles.
	1B	1969	16-30	-----	Yes	100	100	94.3	4.7	1.0	1	-----	Sand	Test #1B was sampled by hand. From 16'-30', mainly coarse sand with more pebbles than

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 23

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHC T-21	Abrasion AASHC T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	1C	1969	50-60	-----	Yes	87.0	79.1	67.1	7.4	2.5 1.7*	1	22.8%	Gr. Borr. (Sand)	top interval. The material extending out to the southwest from high face would be available. Test #1C was dug on lower face below #1. Log of Test: 50'-53', sand; 53'-54', silt seam; 54'-59', fine gravel. Face bottoms in gravel.
	2	1969	0-13	-----	Yes	100	96.3	93.9	10.3	1.0 0.9*	1	----	Sand	Test #2 was a handsample on southeast face pit, 100' southwest of Test #1. Log of Test: 0'-4', fairly coarse sand with pebbles; 4'-10', fairly coarse sand with pebbles. Silt seam at 10'. Below silt seam is fine sand. Face is 28' high.
	3	1969	2-10	-----	Yes	89.8	77.1	64.9	9.0	2.5	1	----	Gr. Borr. (Grav.)	Test #3 was dug in floor about 25' west of Test #1C. Log of Test: 0'-2', ov.; 2'-5', sand; 5'-7', gravel; 7'-10', reddish-brown sand with pebbles. Some cementation noted.
16	1A	1969	2-13	0-2	Yes	100	100	99.1	24.8	11.0 10.9*	1	----	----	Owner: Guy Ladd Area is a high and badly sloughed pit west of Vt. Rte.

*Percentage of Total Sample

TEST I

TUNBRIDGE GRANULAR DATA SHEET NO. 24

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														110, in Tunbridge Village. There is some fine gravel on top. Below the fine gravel is some silty sand. At the southwest end is some fine gravel, and on the southeast corner are some beds of silty gravel or silt with stones. Test #1A was a handsample dug on north face near corner. Log of Test: 0'-2', ov.; 2'-3', silty, pebbly sand; 3'-13', very fine sand, or silt. Face is 60' high.
	1B	1969	13-26	-----	Yes	100	100	97.4	41.9	4.0 3.9*	1	-----	Gr. Borr. (Sand)	Test #1E was a handsample below #1A. Log of Test: 13'-26', fine, or very fine sand, with some thin partly cemented layers.
	2A	1969	2-20	0-2	Yes	100	100	94.3	61.3	12.0 11.3*	1	-----	---	Test #2A was dug by hand on high part of east face, 50' or 60' from the southeast corner. Log of Test: 0'-2', ov.; 2'-7', gravelly sand; 7'-20', brown and gray fine sand. Test bottoms in gray fine sand.
	2B	1969	20-31	----	Yes	100	100	91.5	33.9	3.0 2.7*	1	-----	Gr. Borr. (Sand)	Test #2E was dug by hand below #2A. From 20'-29' was

*Percentage of Total Sample

TABLE I

TUNBRIDGE 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 % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	2C	1969	31-42	-----	Yes	89.7	83.6	67.5	11.5	10.0 6.8*	1	-----	Gr. Borr. (Sand)	<p>fine gray sand with thin silt seams and a few pebbles. From 29'-31', silt-clay, hard pan and pebbles.</p> <p>Interval bottoms in silty gravel.</p> <p>Test #2C was dug by hand on lower face.</p> <p>Log of Test: 31'-34', silty gravel; 34'-35', cobbly sand; 35'-41', hard-packed, pebbly, silty sand. Face bottoms on same, with some cobbles. Much slough shows on lower face.</p>
	3	1969	0-20	-----	Yes	75.6	62.2	49.7	13.0	2.0	1	23.3%	Gravel	<p>Test #3 was dug by hand on top of southwest corner of pit. The foot of face is access road up around southwest corner of pit to its top. Beds of fine gravel, fine sand, pebbly sand, and gravel. Beds dip to south or southwest, and have some cross bedding.</p> <p>Log of Test: 0'-3', fine gravel; 3'-7', sand; 7'-12' pebbly silt-clay; 12'-17', sandy gravel with cobbles; 17'-20', fine sandy gravel. Face bottoms in fine sandy gravel.</p>

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 26

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
	4	1969	1-4	0-1	Yes	69.6	55.2	41.0	10.0	3.0	1	24.8%	Gravel	Test #4 was dug in pit floor, 40' northeast of Test #1C. Log of Test: 0'-1', ov.; 1'-4', gravel with some silt seams. Bedrock at 4'.
	5A	1969	2-6	0-2	Yes	100	93.4	73.5	8.8	3.0 2.2*	1½	----	Sand	Test #5A was dug above the pit, in middle of flat area, near the access road. Log of Test: 0'-2', ov.; 2'-6', pebbly sand.
	5B	1969	6-10	----	Yes	100	100	99.5	81.6	23.0 22.9*	1	-----	----	Test #5B was fine sandy silt from 6'-10'.
	6	1969	1-10	0-1	Yes	100	94.2	93.6	85.2	12.0 11.2*	1	-----	-----	Test #6 was dug in floor of flat area above high face. This test was lower than #5A-5B. Log of Test: 0'-1', ov.; 1'-10', interbedded brown and gray fine sandy silt. Some cementation was noted.
17	1	1969	1-6.5	0-1	No	100	100	100	100	----	--	-----	-----	Owner: Mark Howe Area is a steep-sided, narrow crested knoll southwest of the junction of Town Highway No. 45 with Town Highway No. 53. Test #1 was dug near top of knoll. Material is no good.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 27

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
														Test was dug anticipating negative results. Log of Test: 0'-1', ov.; 1'-6.5', silt to clay, classified as an A-4 silt.
1E	1A	1969	0-13.5	-----	No	100	94.6	88.1	10.6	1.5 1.3*	1	-----	Sand	Owner: Richard Cushman Area is a high knoll with a wind-stripped surface on the south side of Town Highway No. 49. Access gate is 0.30 mile east of Vt. Rte. 110. Test #1A was dug by hand on steep southwest slope. There was pebbly, fine to coarse sand from 0'-13.5'.
	1B	1969	13.5-22	-----	No	100	100	93.3	22.4	5.0 4.7*	1	-----	Gr. Borr. (Sand)	Test #1B was dug by hand below #1A. From 13.5'-22' was sand, with stones up to 2", fine moist sand, and silty sand or silt.
	2	1969	1-10	0-1	No	92.2	90.3	87.3	31.4	10.0 C.7*	1	-----	Gr. Borr. (Sand)	Test #2 was dug on top of small spur, above gully, 315' S. 9° W. of gate, and 10'-11' below the base of power pole. Log of Test: 0'-1', ov.; 1'-5', brown, sand; 5'-6', pebbles and some boulders; 6'-10', sand. Some silt seams were noted.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 28

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	3	1969	2-6.5	0-2	No	100	100	40.6	18.0	4.0	1	-----	Gr. Lorr. (Grav.)	Test #3 was dug on small, lower terrace, 360' S. 67° E. of gate. Log of Test: 0'-2', ov.; 2'-6.5', sand, silt, and boulders. The mat- terial was poorly sorted with angular and some flat boulders and some sand.
	4	1969	2-11	0-2	No	100	97.4	89.2	11.6	2.5 2.2*	1½	-----	Sand	Test #4 was dug atop terrace just south of Town Highway No. 49, and 130' S. 50° W. of gate. Log of Test: 0'-2', ov.; 2'-2.5', pebbles; 2.5'-5', brown; 5'-11', gray sand. This sample had some pebbles, and a very few small cobble.
19	1	1969	3-10.5	0-3	No	100	100	99.5	76.6	13.0 16.0*	1	-----	-----	Owner: Richard Cushman. Area is high pasture terrace east of Vt. Rte. No. 110, and south of Town Highway No. 49. Access is 0.4 mile east from Vt. Rte. 110 via a field road and a stream ford. Test #1 was dug in south- west corner of pasture. Log of Test: 0'-3', ov.; 3'-6', fine sandy silt; 6'-10.5' silt.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 29

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	2	1969	1.5-10	0-1.5	No	100	100	98.1	19.6	3.0 2.9*	1	-----	Gr. Borr. (Sand)	Test #2 was dug at north end of pasture, 70' south southwest of large maple.
	3	1969	2-9	0-2	No	100	100	99.4	55.7	20.0 19.9*	1½	-----	-----	Test #3 was dug on west side of pasture terrace, 40' north of elm, and 285' S. 40° W. of Test #2. Material was more like Test #1 than like Test #2. Log of Test: 0'-2', ov.; 2'-9', fine to silty brown sand; 9'-10' clay. Test hole bottoms in silt to clay.
	4	1969	1-5	0-1	No	100	100	100	100	-----	-----	-----	-----	Test #4 was dug on a knoll below and west of the south end of the terrace. Log of Test: 0'-1', ov.; 1'-5', silt classified as an A-4 silt.
20	--	1969	N	O	T	S	A	I	P	L	E	D		Owner: Dr. Charles Janeway, Tiny pit on west side of Town Highway No. 39, above summer home. Pit face is 3'-6' high. Material is silt and rock fragments (phyllite). There were boulders and blocks, and no sorting at all. No sample taken.
21	1	1969	2-8	0-2	Yes	100	100	99.1	35.7	7.0 6.9*	1½	-----	Gr. Borr. (Sand)	Owner: Reeve Rogers. Area is a small, low, flat-topped knoll with a small, low-

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 30

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
														<p>faced pit, north of old, fenced cemetery. The pit floor is wet, and there is a small marsh and spring 110' northeast of pit. Area is east of Town Highway No. 50.</p> <p>Test #1 was dug by hand on east face.</p> <p>Log of Test: 0'-2', ov.; 2'-8', fine sand with some silt and pebbles. Test bottoms in wet silt.</p>
	2	1969	2-10	0-2	Yes	100	88.0	76.2	7.6	3.0 2.3*	1	-----	Sand	<p>Test #2 was dug by hand on north-east face, 70' north northwest of Test #1.</p> <p>Log of Test: 0'-2', ov.; 2'-8', pebbly sand and fine gravel. Test bottoms in pebbly fine sand. Pit is 120' north-south, 35' east-west. Material is very limited.</p>
22	1	1969	2.5-21	0-2.5	Yes	97.3	93.5	86.4	6.9	1.5 1.3*	1	----	Sand	<p>Owner: Sylvester Howe</p> <p>Area is a pit on southwest slope of bouldery pasture knoll, east of buildings on Town Highway No. 60. The access gate is just west of the curve in the road, 0.2 mile east of Vt. Rte. 110.</p>

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 31

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis					Color AASHC T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing 1½"	% Passing 5/8"	% Passing #4	% Passing #100	% Passing #270				
23	1	1969	0-15	----	Yes	64.4	72.1	53.4	9.0	3.0	1	-----	Gr. Dorr. (Grav.)	<p>Pit is 80' long and has a face 30' high. There is only a little extension to the north, and none to the east. The pit has much silty slough.</p> <p>Test #1 was dug by hand down face.</p> <p>Log of Test: 0'-2.5', ov.; 2.5'-8.5', silty pebbly sand; 8.5'-21', clean, pebbly sand. Some fragments of phyllite were noted.</p>
	2	1969	2-13	0-2	Yes	96.2	77.9	54.4	13.0	3.0	1½	19.3%	Gravel	<p>Owner: Harrison Brainard.</p> <p>Area is pit located east across first branch of White River from Vt. Rte. 110, north of Town Highway No. 52. Pit is under utility line which trends just west of north.</p> <p>Test #1 was a hand sample down southeast face. Gravel from 0'-15'. Sample bottoms on fine gravel at 15'.</p> <p>Test #2 was dug by hand on north face. There was 11' of fine gravel below 2' of overburden. Test bottoms on sand and pebbly sand.</p>
24	1A	1969	2-18	0-2	Yes	100	100	97.4	7.7	2.0 1.9*	1	----	Sand	<p>Owner: James Welch</p>

*Percentage of Total Sample

TABLE I

TUNERIDGE GRANULAR DATA SHEET NO. 32

Map Ident No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1 1/2"	5/8"	#4	#100	#270				
														Area is pit and possible westward extension, west of junction of Town Highway No. 52 with Vt. Rte. 110. Pit has a high upper face and a low lower face. Gravelly sand, or very fine gravel and sand, occur on top of upper face. Bottom of upper face is mainly sand. North end of pit, behind house on Vt. Rte. 110, is inactive. Large flat field atop and to the west, is narrowed on its north end by rocky hillside. Access into field is between white house and small red barn on north side of Town Highway No. 52. Field is 650'-700' long, north-south. Test #1A was dug by hand on east face about 130' from its southwest end. Log of Test: 0'-2', ov.; 2'-18', sand and pebbly sand. There was some cementation from 10'-18'. Test #1B was dug by hand below #1A. Log of Test: 18'-28', partly cemented fine gravel; 28'-33', fine sand and pebbly sand.
	1F	1969	18-33	-----	Yes	79.7	70.1	50.2	10.0	2.0	1	17.8%	Gravel	

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 33

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
	1D	1969	45-58	----	Yes	100	99.0	93.7	26.2	6.0 5.6*	1	-----	Gr. Borr. (Sand)	Test #1D was dug on lower face. Log of Test: 45'-51', interbeds of sands, pebbles, and silt seams; 51'-55', pebbles, sand, and silts, interbedded; 55'-58', silty sand with some pebbles.
	2A	1969	4.5-18	0-4.5	Yes	100	100	100	16.0	2.0	1	----	Sand	Test #2A was dug by hand on upper east face of idle north part of pit, 130; northeast of Test #1A. The top 4.5' is silt-clay. From 4.5'-10'; is medium, or cobbly sand. 10'-19' is fine sand. Below that is heavily sloughed.
	2E	1969	18-27	----	Yes	93.5	88.1	76.7	7.7	2.0 1.5*	1	-----	Gr. Borr. (Sand)	Test #2B was dug by hand below, and 40' south of Test #2A, where gravelly material is exposed. Sample began 18' below top, and is overlain by sand. Log of Test: 15'-20', pebbly sand; 20'-23' fine gravel; 23'-27', sand, with pebbles and some cementation. The bottom 23' of 50-foot face has too much slough to sample
	3	1969	1-6	0-1	Yes	100	97.7	87.3	21.0	8.0 7.0*	1	-----	Gr. Borr. (Sand)	Test #3 was dug in floor, 25' southeast of Test #1D.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 34

Map Ident. No.	Field Test No.	Year Field T sted	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
4	1969	1-9	0-1	Yes	88.3	77.1	55.6	8.0	2.0	1	26.2%	Gr. Borr. (Grav.)	<p>Log of Test: 0'-1', ov.; 1'-6', stony sand. Encountered water at 4.5', but dug to 7'. Bottom was more cobbly than was sample, and had some silt.</p> <p>Test #4 was dug near north-east end of north (idle) pit. Some beds dip southeast.</p> <p>Log of Test: 0'-1', ov.; 1'-4' gravelly sand; 4'-6', gravel; 6'-8', boulders; 8'-9' sand. There was much lensing and inter-bedding. Test bottoms in silt at 9'.</p>	
5	1969	1-9	0-1	No	100	100	100	100	-----	---	-----	-----	<p>Test #5 was dug on terrace, above and west of the pit.</p> <p>Log of Test: 0'-1', ov.; 1'-9', silt, classified as A-4 silt.</p>	
6	1969	1.5-9	0-1.5	No	100	100	100	84.0	24.0 24.0*	1	-----	-----	<p>Test #6 was dug on small terrace, 260' N. 17° E. of, and slightly below Test #5.</p> <p>Log of Test: 0'-1.5', ov.; 1.5'-7' brownish-gray silt; 7'-9', moist silt.</p>	
25	1	1969	0.5-14	0-0.5	Yes	100	100	97.5	43.9	7.0 6.8*	1	-----	Gr. Borr. (Sand)	<p>Owner: Richard Howe Area is pit and terrace on southwest side of Town</p>

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 35

Map Ident. No.	Field Test No.	Year Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
	2A	1969	2-14	0-2	Yes	100	100	95.5	8.5	1.5 1.4*	1	-----	Sand	Highway No. 52, northeast of dump. There are a few thin silt seams, and some very thin cemented sand layers on face of gulley. Test #1 was dug by hand down face of gulley which drops down from south floor of pit. Log of Test: 0'-0.5', ov.; 0.5'-14', interbedded fine and silty sand. Test bottoms in fine sand.
	2B	1969	14-23	---	Yes	100	100	97.4	15.6	1.0 1.0*	1	-----	Sand	Test #2A was dug by hand on upper part of north face of pit. Log of Test: 0'-2', ov.; 2'-14', interbedded pebbly and fine sands. Test bottoms in fine sand. Slough covers most of face. Test #2B was dug on lower part of north face. Log of Test: 14'-21', medium to fine sand, with some phyllitic pebbles; 21'-23', silty, fine sand. Test bottoms in same.
	3	1969	C.5-10	0-0.5	Yes	100	100	100	64.0	10.0 10.0*	1	-----	Gr. Borr. (Sand)	Test #3 was dug in floor at north end of pit. Log of Test: 0'-0.5', ov.; 0.5'-10', fine sand.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 36

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over- burden (Ft)	Exist- ing Pit	Sieve Analysis % Passing				Color AASHO		Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270	T-21			
	4	1969	2-10	0-2	No	100	100	96.2	7.7	2.0	1½	-----	Sand	Test #4 was dug on pasture terrace above pit, 25' north of of Test #2A. Material looks pretty clean. Log of Test: 0'-2', ov.; 2'-7', pebbly brown sand; 7'-10', gray sand.
	5	1969	2-10	0-2	No	100	100	97.0	4.9	1.5	1	----	Sand	Test #5 was dug on pasture terrace, 250' north of Test #4. Log of Test: 0'-2', ov.; 2'-5', brown, pebbly sand; 5'-9', gray sand; 9'-10', silty sand.
	6	1969	1-6.5	0-1	No	100	100	97.7	2.9	2.0	1½	----	Sand	This part of area is a large large, plowed, level field, north of the pit. Test #6 was dug in northeast corner of field, 40' southwest of small elm. Log of Test: 0'-1', ov.; 1'-6.5', brown, medium sand; 6.5'-10', silty fine sand.
	7	1969	1-7.5	0-1	No	100	100	96.4	11.6	2.0	1½	----	Sand	Test #7 was dug near south-east corner of field, 275' S. 20° W. of Test #5. Log of Test: 0'-1', ov.; 1'-5.5', brown medium sand with some pebbles; 5.5'-6.5', gray sand with some

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 37

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis					Color AASHTO T-21	Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
														pebbles; 6.5'-7.5', fine sand; 7.5'-9.5', very fine sand. Some caving occurs.
26	1A	1969	1.5-28	0-1.5	No	100	100	98.0	19.6	2.0 1.9*	1	-----	Gr. Borr. (Sand)	Owner: Richard Howe Area is terrace east of town dump, and south of Town Highway No. 52. Test #1A was dug by hand on southeast sand slope, with holes at close intervals on 24-degree slope. The top 2' in each hole is silty and somewhat organic. Log of Test: 0'-1.5', ov.; 1.5'-18', clean, gray coarse sand, with a few very small pebbles; 18'-28', fine sand with thin seams of silt.
	1B	1969	28-42	-----	No	100	100	100	48.0	11.0 11.0*	1	-----	----	From 28'-42', was hand-sampled as #1B, and was silt. Bottom of Test #1B is 50'-60' above meadow.
	2	1969	2-9.5	0-2	No	100	100	98.4	4.9	1.0 1.0*	1	-----	Sand	Test #2 was dug near edge of pasture terrace just above Test #1A. Log of Test: 0'-2.5', ov.; 2.5'-7.5', clean medium sand; 7.5'-9.5', gray sand.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 30

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VFD Spec.	Remarks
						% Passing								
						1 1/2"	5/8"	#4	#100	#270				
	3	1969	2-9	0-2	No	100	100	98.8	7.9	2.3*	1	-----	Sand	Test #3 was dug in middle of terrace, 150' N. 75° E. of Test #2. Log of Test: 0'-2', ov.; 2'-7', clean brown sand; 7'-9', clean gray sand.
	4	1969	2-9	0-2	No	100	100	97.8	6.9	1.5 1.5*	1	-----	Sand	Test #4 was dug near gate to dump, 160' N. 30° E. of Test #3. Log of Test: 0'-2', ov.; 2'-4.5', brown sand; 4.5'-5.5', gray sand. Fore set beds from 4.5' to 5.5'; 5.5'-9' gray sand, in horizontal beds. Sand has some pebbles, and looks pretty good. Unable to sample below Test #1A-1D, as it was too wet for back-hoe to beach; however, this access could be used to develop the bottom of the terrace where a pit could be opened.
27	1	1969	1.5-9	0-1.5	Yes	100	100	93.8	24.4	8.0 7.5*	1	-----	Gr. Corr. (Sand)	Owner: Paul Russell Area is a small pit on northeast side of Town Highway No. 52, 0.95 mile from Vt. Rte. 110. Pit has much sloughed material which looks dirty. Test #1 was dug by hand on east face.

*Percentage of Total Sample

TABLE I

TUNBRIDGE GRANULAR DATA SHEET NO. 39

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing					Color T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
														Log of Test: 0'-1.5', ov.; 1.5'-4', silt; 4'-6', clean sand and dirty sand with pebbles and two silt beds. The bottom 3' has much slough. Floor shows silty sand and pebbles in top 1.5'

TABLE I
Supplement

TUNBRIDGE PROPERTY OWNERS - GRANULAR

Map Ident. No.

Austin, Wayland	1, 2
Barnaby, Forest	8, 9
Barnaby, Richard	14, 15
Brainard, Harrison	23
Clark, Arnold	7
Cushman, Richard	18, 19
Giles, Mrs. Etta	3
Howe, Mark	17
Howe, Richard	25, 26
Howe, Sylvester	22
Janeway, Dr. Charles	20
Ladd, Guy	16
Rogers, Reeve	21
Russell, Paul	27
Stafford, Mrs. Henry	4, 5
Welch, James	24
Welch, Roger	6
Whitney, Carlyle	10, 11, 12, 13

TABLE II

TUNBRIDGE ROCK DATA SHEET NO. 1

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Existing Quarry	Method of Sampling	Abrasion AASHO T-3	Remarks
1	1	1969	Limestone	No	Chip	4.3%	Owner: Howard Hoyt Area is hill south of junction of Town Highway No. 32 with Town Highway No. 39. Low hill trends north northeast along strike. Top is open pasture sloping to west and north. Some exposures on top near powerline and on west side of top. Two 40-foot exposures sampled in Test #1, beginning at power line pole and continuing N. 30° W. These are separated by 80'-90' of no exposures. Rock is dark blue-gray weathered limestone, light gray to light blue-gray on fresh surface. The weathered surface is from 1" to 3" thick. Some beds have scattered iron oxide stains from altered micas. There appears to be zones of quartzose material, as the rock varies from soft to hard. There are beds where thin breakage occurs. The limestone is crystalline. AASHO T-96 abrasion is 38.8%.
	2	1969	Limestone	No	Chip	3.4%	Test #2 taken on steep east face of hill west across brook from Town Highway No. 39. There is 60'-75' of relief and the rock is fairly well exposed. Top of test is 300' north northeast along strike from southeast end of Test #1. Top 30' or so of east face has only scattered exposures. Bottom 20'-25' is fairly well exposed. Beds in this area strike N. 20° E., dip steeply west. Access from northeast to southwest up from Town Highway No. 39 across brook to east side of hill. A somewhat phyllitic bed, about 3'-5' thick was noted on east side of hill. This bed was near a mass of highly contorted quartz blebs near the bottom of the outcrop. Some thin-bedded limestones are near the base of the exposure. AASHO T-96 abrasion is 47.7%.

TABLE II
Supplement

TUNBRIDGE PROPERTY OWNERS - ROCK

Map Ident. No.

Hoyt, Howard

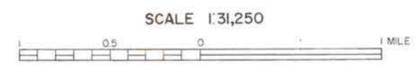
1



LEGEND

- GRAVEL, ACCEPTABLE FOR ITEM 201 (sub-base of gravel)
- GRAVEL, DEPLETED OR NOT ACCEPTABLE FOR ITEM 201
- △ SAND, ACCEPTABLE FOR ITEM 202 (sub-base of sand)
- ▲ SAND, DEPLETED OR NOT ACCEPTABLE FOR ITEM 202
- GRANULAR BORROW, ITEM 105
- MATERIAL NOT ACCEPTABLE FOR ITEM 105
- ✕ EXISTING PIT
- SG SAND & GRAVEL DEPOSIT
- S SAND DEPOSIT
- 3 IDENTIFICATION NUMBER (refer to data sheets)

TUNBRIDGE

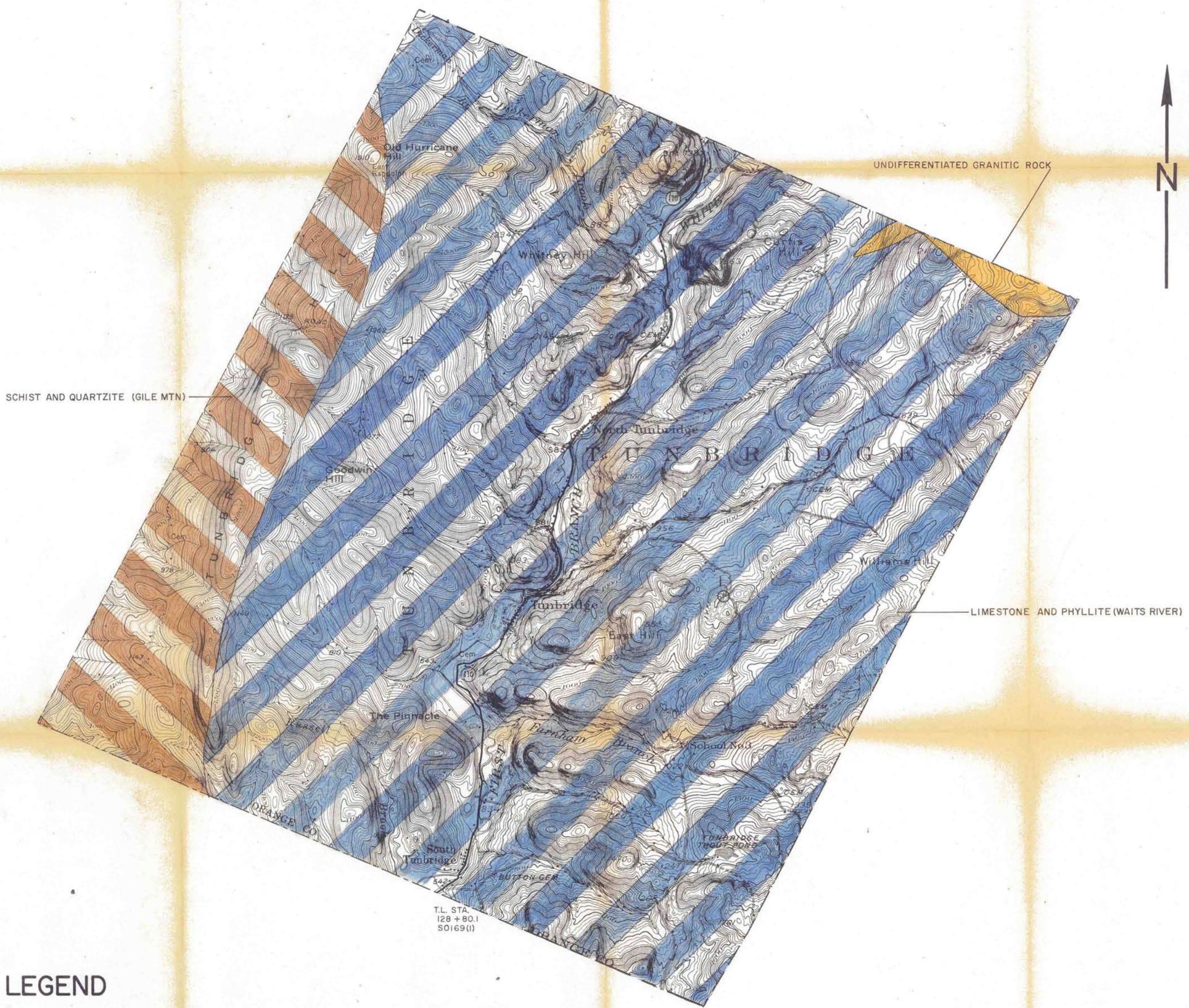


CONTOUR INTERVAL 20 FEET
1970

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

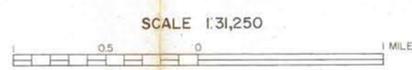
DATE				
BY				



LEGEND

-  ROCK, ACCEPTABLE FOR ITEM 204 (sub base of crushed rock)
-  ROCK, NOT ACCEPTABLE FOR ITEM 204
-  EXISTING QUARRY
-  GRANITE TO DIORITE (light to intermediate igneous rocks)
-  AMPHIBOLITE, GABBRO, DIABASE, METADIABASE, GREENSTONE, TRAP DIKES (basic or dark igneous rocks)
-  PERIDOTITE, PYROXENITE, SERPENTINITE (ultra-basic igneous rocks)
-  GNEISS
-  QUARTZITE
-  DOLOMITE
-  MARBLE, LIMESTONE
-  SCHISTS, SLATES, PHYLLITES, SHALES, CONGLOMERATES
- 3** IDENTIFICATION NUMBER (refer to data sheets)

TUNBRIDGE



CONTOUR INTERVAL 20 FEET

1970

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					

PLATE II ROCK