

SURVEY OF HIGHWAY CONSTRUCTION MATERIALS
IN THE TOWN OF WILMINGTON, WINDHAM 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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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 are 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 materials 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.

Inclusures

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 conducted by Professor D.P. Stewart of Miami University, Oxford, Ohio, who had been mapping the glacial features 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, the Surficial Geologic Map of Vermont, 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 the 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

Wilmington is located in Windham County in the south central part of the State. It is north of Whitingham which borders the State of Massachusetts. Marlboro lies to the east, Dover to the north, and Searsburg and Readsboro to the west. (See County and Town Outline Map of Vermont on the following page.)

It is in the Green Mountains Physiographic Subdivision of Vermont, and is characteristically rugged. The western quarter of the township rises to the greatest elevation, 3,420 feet, on Haystack Mountain. Between the higher western hills and the rugged hills of the eastern half of the township, is the broad valley of the Deerfield River, North Branch. Southwest of Wilmington Village this valley is filled with the waters of Harriman Reservoir whose spillway is in Whitingham. Elevations in the eastern part of Wilmington vary between 1,650 and 2,415 feet on the hills, and range from 1,533 feet in the village to 1,993 feet near the Marlboro Town Line in the valleys and saddles. The lowest elevation is that of Harriman Reservoir, 1,490 feet.

Hall Brook, Bill Brook, and Beaver Brook flow into the Deerfield River from the eastern hills. Cold Brook, Haystack Brook, Rose Brook and Binney Brook are the major streams that issue from the west. The stream valleys of Cold Brook and the Deerfield River are filled with alluvial material, and are the sites of numerous large farms.

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 (AASHTO T-3) and the Los Angeles Method (AASHTO 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.

exposure found extensive enough for a quarry operation. Outcrops on the northeast side of Town Highway No. 40 are representative of the greenstone exposures. Three exposures of gneiss were explored and found to be too poorly exposed and too small for a crushed rock source. Two exposures were on wooded hillsides with only a moderate slope and low relief. The third area noted was adjacent to the north side of Vermont Route 9 west of Wilmington Village. In this location there would be no room beside the highway to begin operations, and little room north of the top of the exposure for an extension.

The Readsboro schist of the Cavendish formation is mapped as occurring in the western quarter of Wilmington. No exposures of rock suitable for crushed rock for sub-base was found. The Hoosac schist that occurs in the east part of town was found to be a more competent rock than the Readsboro schist. On Vermont Route 9 at the Marlboro Town Line the rock varied from gneiss to granulite and was quite hard. However, exposures were limited to the roadside. Therefore, little area and relief would be available for a crushed rock operation. A quarry near the junction of Town Highways No. 40 and 41 was sampled as a potential source of rock for Sub-base of Crushed Rock, Item 204.

The rock is the gneissose facies of the Hoosac schist. It is quite competent and hard, and breaks blocky to thin, depending on the relative quantity of platy minerals. The quarry has a fairly high northeast face. There is a large area of well-exposed schist east of the quarry, on the north side of the Town Highway.

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 material in the town of Wilmington is mainly of fluvial origin. A kame moraine deposit of thin sand and gravel occurs between Harriman Reservoir and Vermont Route 100 near the Whitingham Town Line. Outwash occurs in the east-west valley along Vermont Route 9, between Town Highway 40 and the Searsburg Town Line.

Fluvial sands and gravels were sampled extensively along the North Branch of the Deerfield River and along Cold Brook, a tributary from the northwest. Fluvial gravel acceptable for Item 201, Sub-base of Gravel, was sampled in Map Identification No.'s 2, 3, 7, 16, and 21. Fluvial sand acceptable for Item 202, Sub-base of Sand, was sampled in Map Identification No.'s 3, 5, 13, 17, and 21. Map Identification No. 3 is the largest deposit of granular material in Wilmington. It was being worked at the time it was sampled. Map Identification No. 21 is a fairly large meadow in which the gravel is covered by 4 or 5 feet of fine sand.

A small pit at Map Identification No. 25 had 13 feet of sand acceptable for Item 202. A thin layer of gravel at Map Identification No. 26 was acceptable for Item 201. These two areas represent the kame moraine deposition.

Outwash material was sampled in Map Identification No. 29 where sand acceptable for Item 202 occurs. The granular material is exposed by two pits and is very shallow. Possibly it extends to the west of the existing pits.

In general, granular material in Wilmington is scarce and in great demand. Its largest market is in the many vacation home developments. William Morse of Bennington had leased the pit at Map Identification No. 3, and it appeared that he would deplete this large source in a short while at the rate he was exploiting it. A building contractor has the gravel rights at Map Identification No. 21, and in two pits, Map Identification No.'s 19 and 22. Small granular areas and small or largely depleted pits make up the remainder of the possible sources of granular material for highway projects.

SUMMARY OF ROCK FORMATIONS IN THE TOWN OF WILMINGTON

Pinney Hollow formation - Pale green quartz-sericite (muscovite-paragonite) -chlorite phyllite and schist with abundant magnetite, chloritoid phyllite and schist, quartz-sericite-albite-chlorite schist, and rare beds of carbonaceous and schistose quartzite; garnet porphyroblasts common south of Ottauquechee River.

Chester amphibolite member - (Pinney Hollow formation) - thin-layered, ligniform amphibolite and hornblende schist.

Hoosac formation - Quartz-sericite-albite-biotite-chlorite schist characterized by albite porphyroblasts--biotite and garnet porphyroblasts common southward; locally carbonaceous.

Turkey Mountain member - (Hoosac formation) - amphibolite and actinolitic greenstone characterized by oval, 1/8 to 3/8 inch spots, chiefly of epidote.

Hoosac formation - amphibolite and actinolitic greenstone.

Readsboro member - (Cavendish formation) - quartz-muscovite schist containing biotite or chlorite and characterized by conspicuous porphyroblasts of sodic plagioclase; less commonly quartz-muscovite-paragonite schist containing chlorite, garnet, or chloritoid; and locally kyanite (Gassetts schist).

Bull Hill gneiss - (Cavendish formation) - quartz-plagioclase-microcline-biotite gneiss characterized in many areas by augen of microcline as much as two inches long; fine- to medium-grained quartz-plagioclase-biotite or biotite-muscovite gneiss.

Sherman marble member - (Cavendish formation) - buff dolomite; minor white to pink calcite marble.

Mount Holly Complex - Mainly fine- to medium-grained biotitic gneiss, locally muscovitic, and in western areas chloritic; massive and granitoid in some localities, fine-grained or schistose and compositionally layered in others; also abundant amphibolite and hornblende gneiss, and minor beds of mica schist, quartzite, and calc-silicate granulite; includes numerous small bodies of pegmatite and gneissoid granitic rock.

GLOSSARY OF SELECTED GEOLOGIC TERMS

Alluvial - Pertaining to material carried or laid down by running water.

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

Fluvial - Pertaining to streams or deposition by streams.

Gneiss - A foliated metamorphic rock with no specific composition implied, but having layers that are mineralogically unlike and consisting of interlocking mineral particles that are mostly visible to the eye. Usually gneiss displays an alternation of granular minerals and tabular or schistose minerals. The rock tends to split along the planes where tabular or schistose minerals predominate.

Greenstone - A field name for rocks that have been so metamorphosed or otherwise altered that they have assumed a distinctive color owing to the presence of chlorite, epidote, or actinolite.

Ice-Contact - Refers to sediments which have accumulated in contact with stagnant or wasting glacial ice.

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

Kame Terrace - An accumulation of stratified materials laid down chiefly by streams between a glacier and an adjacent valley wall.

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

Outwash - Stratified drift that is stream-built beyond the glacier; laid down by streams of meltwater issuing from the face of the glacial ice.

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. The fracture is intermediate between the smooth, even cleavage of slate and the rather splintery fissility of schist. The rock is not as tough as slate.

Schist - A metamorphic crystalline rock having a closely foliated structure and a tendency to split along approximately parallel planes.

Syncline - A fold of rock strata that is concave upward, and in which younger formations occur toward the center of curvature.

Till (Glacial 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 No. 100	Percent Passing Square Openings 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"
	Item 205-A	No. 4
	Finé-Graded	1½"
	Item 205-B	No. 4
		100
		25-50
		95-100
		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 that 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 (3½) as determined by the colorimetric test described in the AASHO Method of Test, Designation T-21."

Item 207, Sub-base of Dense Graded Crushed Rock

"Article 207.02 - materials. The crushed rock shall consist of granular fragments of hard, durable rock, of uniform quality throughout, reasonably free from thin or elongated pieces, soft or disintegrated rock, dirt or other objectionable matter."

"The rock shall meet the following requirements:

" The percent of wear shall be not 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."

"When tested by laboratory methods, using Method AASHO T-27, the material shall meet the requirements set up in the following table:

	Square Openings	Percent Passing
Grading	3"	100
	2"	80-100
	1½"	50-75
	No. 4	30-55
	No. 100	3-10
	No. 270	0-6

"The dense graded rock shall be homogeneous and shall be produced and manipulated in such a manner as to prevent segregation before material is spread on the prepared subgrade, or at other locations."

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 1

Map Jdent. 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 VHD Spec.	Remarks		
						% Passing										
						1 1/2"	5/8"	#4	#100	#270						
1	1	1970			Yes	N	O	T	S	A	M	P	L	E	D	<p>Owner: Chimney Hill, Inc. Area is a large abandoned pit where a pond site is planned by the owner. It is located west of State Aid No. 1 and Cold Brook and north of Haystack Brook, within a fluvial gravel deposit (according to D. P. Stewart).</p> <p>Test #1 was dug in the west side of the pit floor, 120' from the north end. About 1.5' of brown silty and stony till overlies gray, hard-packed, clayey, sandy till. No sample was taken.</p>
	2	1970	0.5-7.5	0-0.5	Yes	100	100	86.6	55.0	21.2	1	---	---		<p>Test #2 was dug at east side of pit, 240' from Test #1, 45' west of and 10' above Cold Brook. The material is a gray, stony and sandy till with a very little clay. It is unstratified. The sample was excessively fine for Granular Borrow, Item 105.</p>	
	3	1970	----	----	Yes	N	O	T	S	A	M	P	L	E	D	<p>Test #3 was exposed on 9-foot face at south end of the pit. The material is a variably stony till with angular stones, silt, and no stratification. No sample was taken. South extension of the pit is inaccessible to the backhoe.</p>

TABLE I

WILMINGTON 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 % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
2	1	1970	1.5-8	0-1.5	Yes	61.8	46.9	30.6	11.0	2.0	2	10.7%	Gravel	Owner: Mrs. Fabri (leased to W. Morse). This area is west across Cold Brook from large Fabri pit, and is due north of the house. It is in a fluvial gravel deposit. Test #1 was a handsample taken on bank of brook near the corner of the pit's north-west face. The material is fairly well stratified, fine and cobbly gravels with some small boulders (not sampled). Sub-rounded, tabular stones are common. Cobbly gravel continues beneath slough on the 14-foot bank.
	2	1970	0-6	----	No	100	100	88.4	12.0	6.1	1	----	Gran. Borrow (Sand)	Test #2 was dug in south corner of a large stripped area, about 290' SSW of Test #1, and 70' NW of the west bank of Cold Brook. The material is sandy with small pebbles, and is unstratified. From the appearance of the stripped area, the gravel is confined to near the northeast side, along the brook.
	3	1970			Yes	N O T S A M P L E D								Test #3 dug on a narrow shelf above the brook at the foot of the 12-foot NW pit face. About 3.5' of vaguely stratified pebbly sand and silty sand overlies till. No sample was

TABLE I

WILMINGTON 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
						1 1/2"	5/8"	#4	#100	#270				
3	1	1970	4-11	0-4	Yes	53.9	50.0	40.2	23.0	3.4	2	----	Gran. Borrow (Grav.)	taken. Owner: Mrs. Fabri (leased to W. Morse). This area is a fluvial gravel deposit on the east side of Cold Brook. It was active when sampled. It was being extensively worked at its north end. Test #1 was a handsample on the 11-foot northeast face, and represents a section of material about 225' east-west x 250' north-south that was by-passed to exploit the gravel in the extreme north end. The northeast extension is limited by a brook and swampy area. The face has 3'-4' of overburden, and in places there are silts and organic material on the face. From 4'-11' were gravel and sand beds.
	2	1970	0.5-11	0-0.5	Yes	60.6	49.0	34.4	14.0	3.7	1	14.8%	Gravel	Test #2 was a handsample on the north face, just west of the large lobe being exploited during the sampling program. The test represents the removed material, as well as a narrow, triangular section of gravel extending NNW along the east bank of Cold Brook. The material is gravel

TABLE I

WILMINGTON 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				
	3	1970	0.5-4	0-0.5	Yes	81.0	69.0	49.8	10.0	2.3	1	12.7%	Gravel	with cobbles, and bottoms in wet gravel at the floor level. Test #3 was a floor sample taken 165' east of Cold Brook in the south central part of the pit. Water enters at 2' in fine gravel with cobbles. The material continues below the depth sampled.
	4	1970	0.5-5	0-0.5	Yes	100	96.0	83.6	3.3	1.4 1.2*	1	----	Sand	Test #4 was dug in pit floor, 400' S.50°E. of Test #3. Water enters at 2' in pebbly sand that continues below the depth sampled.
	5	1970	0.5-9	0-0.5	Yes	58.1	40.2	27.4	16.0	4.6	1	14.3%	Gran. Borrow (Grav.)	Test #5 was dug near north corner of large stripped area north of pit. The material is a cobbly and bouldery gravel. An estimated 15% exceeds 6". A very bouldery layer occurs at 6'-7.5'. Water occurs below 5'.
	6	1970	0.5-7	0-0.5	No	---	---	---	---	---	---	---	---	Test #6 was dug at west corner of stripped area, 300' S.65°W. of Test #5, and 400' NW of Test #2. The material is gravel with cobbles and about 10% exceeding 6". Water occurs at 5.5'. The test results were misplaced.
	7	1970	1.5-8	0-1.5	No	45.3	25.4	15.4	6.0	1.9	2	9.8%	Gravel	Test #7 was dug 240' north of Test #1 in the northeast extension of the pit. The

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 5

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				
													material is cobbly gravel with some boulders. Water enters at 3.5', presumably from the brook and marsh, about 80'-90' to the east. At the time sampled, the pit was about 2000' long x 500'-650' wide. It appeared that Cold Brook had been diverted to the west to aid exploiting material in the pit.	
4	1	1970			Yes	N O T S A M P L E D							Owner: Jasper Howe. This area is the south end of a large pit complex located in a fluvial gravel deposit between the Deerfield River and Ellis Brook. The northwest part of the pit abuts a wooded hill. The Dover Town Line is the north limit of the area. Test #1 was dug on the striped slope in the southwest part of the pit, about 100' north of the haul road from Rte. 100. Test represents an area of material 155' NW-SE x 145' NE-SW. Bedrock is exposed on a face 30' east of the test. The surface is very bouldery, and the test encountered bedrock at 2.5'. No sample was taken.	
	2	1970	0-4.5	---	Yes	71.4	56.4	42.6	24.0	5.7	1½	28.2%	Gran. Borrow (Grav.) Test #2 was sampled on a low face in the upper central part of the pit, northeast of Test	

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 6

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 VHD Spec.	Remarks
						% Passing								
						1 1/2"	5/8"	#4	#100	#270				
	3	1970	0-7.5	---	Yes	74.0	62.4	40.8	16.0	5.0	1	39.4%	Gran. Borrow (Grav.)	<p>#1, and just northeast of haul road up to a hilltop pit. Test was continued into floor. Material is 2.5' of gravel over gravel and ledge blocks or fragments. The test bottomed on bedrock.</p> <p>Test #3 was sampled on northwest face in upper part of pit on the Dover Town Line. Probable up-slope extension estimated to be 25'. The face varies between 7' and 10', and is wet at its foot. Log of Test: 0-5', fine, hard-packed gravel; 5'-6.5', coarse sand; 6.5'-7.5', fine sand; 7.5'- , silt and rocks.</p> <p>This portion of the pit complex is about depleted of any material save bedrock fragments and huge blocks and boulders.</p>
5	1	1970	0-4.5	---	Yes	78.2	65.4	44.7	8.0	2.1	1	39.3%	Gran. Borrow (Grav.)	<p>Owner: Jasper Howe.</p> <p>Area is excavations in pasture that trend NNW from owner's buildings and face west. The property is located west of S.A. No. 2, near the Dover Town Line. Deposit is mapped as fluvial gravel by D. P. Stewart.</p> <p>Test #1 was dug atop face</p>

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 7

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (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				
	2	1970	1.5-6.5	0-1.5	Yes	100	89.1	77.5	2.3	2.6 2.0*	2½	----	Sand	near south part of pit area, 30' north of an east-west stone wall. The material is fine gravel with very few cobbles. Test #2 was dug about 155' NW of Test #1, and about 4' below on the middle level of the pit. From 1.5'-6.5' is a good-looking gravelly sand; below 6.5' is unsorted, hard-packed rocky and silty sand, which may be the till surface of the fluvial deposit.
	3	1970			Yes	N O T S A M P L E D								Test #3 was dug 315° N.250W. of, and about 6'-8' above Test #2 in northern-most area of exposed material. The test was dug to expose a 4-foot face and was continued in the floor. Many boulders and cobbles show on the surface. Only about 2.5' of gravel occurs above glacial till. No sample was taken.
	4	1970	1-10.5	0-1	No	64.5	50.5	34.7	14.0	6.0	3½	31.2%	Gran. Borrow (Grav.)	Test #4 was dug 140' S.55°E. of Test #3 on narrow flat terrace between pit and bouldery pasture hillside to the east. The material is a hard-packed, reddish-brown gravel, with sub-round to tabular stones. The gravel is coarser below 4.5'. Water enters at 8.5'. Bottom

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 8

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 VHD Spec.	Remarks
						% Passing								
						1 1/2"	5/8"	#4	#100	#270				
	5	1970	1-4.5	0-1	No	47.2	36.8	26.1	15.0	6.0	2	31.2%	Gran. Borrow (Grav.)	is silt. There is a very shallow dip to the southwest. Test #5 was dug 210' S.30°E. of Test #4 at estimated southeast limit of gravel on the terrace, which is 35' wide at this point. Material is hard-packed gravel like that of Test #4. Boulders at 4.5' prevented further digging. Gravel is spotty and shallow in this area. The north part of the area has gravel in the narrow terrace. Access to this area is from the southeast, through the owner's dooryard and over the pasture knolls.
6	1	1970			Yes	N O T S A L I P L E D							Owner: Charles Rotolo-Andy Demattia. This is an old, small pit above the east side of State Aid No. 2, north of the "Sitzmark". The somewhat flattened pit faces expose glacial till in places. Test #1 was dug in pit floor. Glacial till with large boulders occurred and was not sampled.	
	2	1970	1-9.5	0-1	Yes	100	100	68.6	37.0	13.3	1	----	----	Test #2 was dug atop gentle slope above southeast corner of pit. The material is stony till, too fine for Granular

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 9

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				
	3	1970	5-11	0-0.5	Yes	100	78.2	61.2	31.0	13.8	1½	----	---	Borrow. Test #3 was of bottom 6' of 11-foot south face of pit. Material is a sandy, hard-packed, pebbly, unsorted glacial till.
7	1	1970	3-8.5	0-3	No	60.4	49.0	32.4	4.0	1.0	1½	20.2%	Gravel	Owners: Charles Rotolo- Andy Demattia. Area is meadow west of the "Sitzmark", and on the east side of Deerfield River. Deposits in meadow probably are of fluvial origin. Test #1 was dug 110' east of the river, just south of a drainage ditch. The top is silty sand, overlying a fine gravel which becomes very cobbly with depth. Only a few stones exceed 6". Water enters at 6.5'. Gravel continues below the depth sampled.
	2	1970	1.5-8	0-1.5	No	58.9	42.8	26.4	8.0	1.7	1½	17.7%	Gravel	Test #2 was dug 135' S. 12°W. of Test #1. Log of Test: 1.5'-5.5', cobbly fine gravel; (water enters at 5.5') 5.5'-8.0', cobbly gravel with a few boulders. The material continues the same below 8'. This area would be a good site for a drag-line operation and a subsequent pond. The gravel is very good. However, parts of

TABLE I

WILMINGTON DATA SHEET NO. 10

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 ASHO T-4-35	Passes VHD Spec.	Remarks
						#1/2"	#3/8"	#4	#100	#270				
														the meadow are underlain by discharge lines from the waste disposal system at the "Sitzmark."
8	1	1970	2-8	0-2	Yes	62.4	50.7	35.6	21.0	3.8	1	29.5%	Gran. Borrow (Grav.)	Owner: Charles Rotolo- Andy Demattia. Area is a small pit opened in a parking area east across State Aid Highway No. 2 from the "Sitzmark". West face of pit, below road level, shows fine, well-bedded gravel. The east face is a glacial till which has vague horizontal layering. Test #1 was on east face, 60' from north end of pit. The material is unstratified, but has sand and sub-angular to sub-round pebbles to boulders. It appears to be transitional between fluvial gravel and till.
	2	1970	0-4	---	Yes	100	100	59.9	53.0	10.3	1	----	---	Test #2 was dug in north end of pit floor, about 10' below level of State Aid Road. Glacial till found in which water entered at 3.5'.
9	1	1970	1.5-11.5	0-1.5	No	67.1	52.3	36.6	17.0	5.2	1½	24.0%	Gran. Borrow (Grav.)	Owners: Charles Rotolo- Andy Demattia. This area is a field above the east side of State Aid Highway No. 2, at the junction with Town Highway No. 15. It

TABLE I

WILMINGTON DATA SHEET NO. 11

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
						1 1/2"	5/8"	#4	#100	#270				
														is mapped as fluvial gravel. Test #1 was dug 100' east of the road, atop wooded north bank of the field. Log of Test: 0-1.5', ovbdn.; 1.5'-6', cobbly gravel; 6'-9', sand; 9'-11.5', fine gravel; 11.5'-12.5', sand. Field slopes up toward the east. Fluvial gravel is mapped as being limited to the west edge of the field.
10	1	1970	1-8	0-1	Yes	72.5	55.2	35.3	5.0	1.8	2	26.6%	Gran. Borrow (Grav.)	Owner: Alton Cross. Area is a small pit that is nearly depleted. It is located on the northwest side of Vt. Rte. 100, 0.3 miles south of State Aid No. 2. A north to northwest extension would be limited to about 50'. Large boulders, blocks, and cobbles are exposed on faces and in stripped area on top. Test #1 was taken on 12-foot face near the northeast end. Much sloughed material conceals lower face. From 1'-3' is silty, stony, hard-packed material, underlain by 5' of good clean gravel. At 8' is silt and a boulder. Stripped area atop pit is about 35' x 175',

TABLE I

WILMINGTON DATA SHEET NO. 12

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				
														and would have less than 8' of marginal gravel.
11	1	1970	1.5-10.5	0-1.5	Yes	100	100	51.1	31.0	11.4	1	-----	---	Owner: James Kfoury. This area is a small bank on the west side of Vt. Rte. 100 at "The Other Way" Lodge. Only a very small area of material would be exploitable. The material is cobbly, bouldery, and poorly sorted. Some pockets of sand occur within the generally unstratified material. It is probably glacial till.
12	1	1970	1-5	0-1	No	45.3	35.1	24.5	10.0	2.9	3½	23.4%	Gravel	Owner: J. Lundsted. This is a gravelly area alongside the north bank of Bill Brook, east of State Aid No. 4. It is probably a fluvial gravel. Test #1 was dug 30' north of the brook on a low bank at the east edge of an exploited portion of the deposit. From 1'-2.5' is sand that overlies 2.5' of cobbly, coarse, poorly sorted gravel. Till occurs at 5'. The deposit's extension is east and north on a low terrace that was not accessible to the backhoe. However, it is of very limited area.
13	1	1970	2-13	0-2	Yes	100	96.3	87.6	28.6	5.9 5.2*	2	----	Gran. Borrow (Sand)	Owner: Francis Howe. This area is newly developed and stripped north extension

*Percentage of Total Sample

TABLE I

WILMINGTON DATA SHEET NO. 13

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing 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				
	2	1970	2-13	0-2	Yes	100	81.5	73.7	5.1	0.8 9.5*	1	----	Sand	<p>of large pit. The material is mostly sand, and was being removed when the pit was sampled.</p> <p>Test #1 was in northeast face that fronts large, old pit to the southwest, at a point 35' from the southeast end. Log of Face: 2'-5', pebbly fine sand; 5'-7.5', fine gravel; 7.5'-9.5', silty sand; 9.5'-12', lens of pebbly sand; 12'-13', fine sand.</p> <p>Test #2 was sampled at NNW corner of southwest face, near the west limit of the deposit. The material is fine to coarse sand, with pebbly and gravelly lenses. Deposit is mapped as fluvial gravel. There are numerous ponds in floor of pit. Stripped area currently being worked was 95' E-W x 160' N-S. Deposit, however, extends east toward State Aid Highway 1.</p>
14	1	1970	1-6	0-1	Yes	67.8	56.1	42.9	10.0	3.7	2	25.4%	Gran. Borrow (Grav.)	<p>Owner: Francis Howe.</p> <p>This is a large, sprawling pit south of Map Ident. No. 13, and southwest of owner's buildings. It is pretty well depleted, but has some material left in its southwest part near an old sugar house. Pit is in fluvial gravel deposit.</p>

*Percentage of Total Sample

TABLE I

WILMINGTON DATA SHEET NO. 14

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	1970	0-4	---	Yes	58.4	52.4	43.4	22.0	8.9	1	2.18%	Gran. Borrow (Grav.)	<p>Test #1 was sampled on west face, 165' due east of sugar house. From 1'-6' is fine and cobbly gravel that bottoms in cemented sand. There is no apparent bedding. Area of material represented by test is 475' x 30'-to-150', and is atop pit's west extension.</p> <p>Test #2 was sampled on face in southwest corner of pit, about 200' south of Test #1. Test represents area of material 105' E-W x 115' N-S, located south of road to sugar house. Top 4' of face is cobbly and fine gravel; bottom 5.5' of face is glacial till.</p>
	3	1970	1-5.5	0-1	Yes	50.5	42.2	33.5	22.0	11.8	2	----	----	<p>Test #3 was taken on north side of road to sugar house, 115' north of Test #2. A face 6' high with north extension was sampled. Sandy fine gravel, poorly sorted, and silty sand overlies till at 5.5'.</p>
	4	1970	0-3	---	Yes	42.6	30.9	17.5	18.0	5.6	1½	25.6%	Gran. Borrow (Grav.)	<p>Test #4 was dug in north end of upper floor on west side of pit. This floor is 260' N-S x 55' E-W. About 3' of gravel and nested boulders goes to till. One or two large boulders. The area of the pit sampled represents only mater-</p>

TABLE I

WILMINGTON DATA SHEET NO. 136

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (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				
														ial left above water. Main floor has a few islands of strippings, etc., and many ponds. Pit extension would be eastward under meadow. Six samples taken from this pit between 1959 and 1964 failed to meet abrasion requirements for Item 201.
15	1	1970	3-12	0-3	Yes	100	62.8	45.9	27.0	7.6	1	----	Gran. Borrow (Grav.)	Owner: Henry Wheeler. This area is a small pit in a hillside meadow on the northwest side of Town Highway No. 24. Pit is 140' x 80', and is at the upslope limit of a fluvial gravel as mapped by D. P. Stewart. From 0-3' appears to be an ablation till; from 3'-8' is unsorted silt and cobbles with boulders; from 8'-12' is sandy gravel showing vague stratification. Bottom 12' of face is glacial till. Owner stated that material would not be available for highway use.
16	1	1970	1-11	0-1	Yes	75.6	60.5	44.4	100	3.4	1	21.6%	Gravel	Owners: Weston Brown - Rosella Clark. This is a small bank on a hillside above and northwest of a Sunoco Station on Vt. Rte. 100. Bedrock and large boulders are exposed in the pit. The

TABLE I

WILMINGTON DATA SHEET NO. 16

Map Ident. No.	Field Rest No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passijg					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
													pit is nearly depleted. There is a possible extension west into the woods above the pit. Test #1 was a handsample on east face near its north end, about 250' north of the filling station. Material is gravel, sand, and pebbly sand. Much work has been done in pit, apparently to separate gravel from boulders and bedrock.	
17	1	1970	0.5-8.5	0-0.5	Yes	100	100	91.3	8.2	1.1 1.0*	1	----	Sand	Owner: J. B. Crafts. This is a fairly large pit with an east extension, located east across Vt. Rte. 100 and the Deerfield River from a Saab Auto Franchise. Access is 0.3 mile through a meadow and across the river. The pit is about 440' long. Most of its floor has standing water, and the east extension of its south half is wet. The deposit is mapped as a fluvial gravel. Test #1 was dug in pit floor at its south end. The material is interbedded sand and gravelly sand. From 7.5'-8.5' is fine gravel. Water enters at 2'.
	2	1970	0.5-6	-----	Yes	100	80.7	69.2	11.1	1.0 0.7*	1	---	Gran. Borrow (Sand)	Test #2 was sampled on 6-foot east face of pit, 25' east of Test #1. Westerly dipping

*Percentage of Total Sample

TABLE I

WILMINGTON 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				
	3	1970	N O T S A H P L E D										beds of fine sand and pebbly sand overlie fine gravel from 6'-8'. Water occurs at the bottom.	
	4	1970	1-5	0-1	No	56.3	47.8	37.7	17.0	6.2	1	30.7%	Gran. Borrow (Grav.) Test #4 was dug atop hill northeast of pit. From 1'-5' is a cobbly reddish gravel that is poorly sorted. Till at 5'. Test represents possible extension of pit.	
	5	1970	N O T S A M P L E D										Test #5 was dug atop east face of pit at its north end. Material is bouldery with much silt and little sand. Little material remains in this area most of what would be in floor.	
18	1	1970	2-9.5	0-2	Yes	100	83.4	74.4	18.8	10.7	1	3.0*	Owner: Henry Wheeler. This area is a small pit in a large meadow east of Vt. Rte. 100, south of Town Highway No. 24. Owner opened the pit for his own use, and stated that the material would not be available. This area is not mapped as a granular deposit, but several broad ridges or rolls may attest to a fluvial origin. Test #1 was a hand sample of 9.5-foot east face. From 2'-	

*Percentage of Total Sample

TABLE I

WILMINGTON 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 AASHO T-4-35	Passes VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
													6.5' is pebbly sand with gravelly lenses; 6.5'-9.5', silty sand. Floor has 1' of gravel over silty and coarse sand.	
19	1	1970	1-5	0-1	Yes	66.6	58.4	48.3	11.0	3.9	3	26.8%	Gran. Borrow (Grav.) Owner: Haynes Brothers Construction. Area is a fairly large, but shallow pit west across the Deerfield River from the north edge of Wilmington Village. Pit is on hillside with a limited extension up slope to the northwest. Test #1 was a hand sample on west face of pit, 90' northeast of southwest corner of property. The five-foot face had 3' of cobbly gravel and 1' of coarse sand below 1' of ovbdn. Test is close to fence separating pit from bouldery hillside.	
	2	1970	6-12.5	0-6	Yes	48.1	38.7	29.2	14.0	3.3	1½	27.1%	Gran. Borrow (Grav.) Test #2 was sampled on north face of south (lower) level of pit area, near its east end. About 6' of overburden caps a fine-to-cobbly buff gravel that is partly cemented. Fifteen-foot face bottoms in silt-to-clay and a boulder. This face has an extension north into upper level, but strippings from upper level cap the face.	

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 19

Map Ident. No.	Field Test No.	Year Field Test	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color AASHTO T-21	Abrasion AASHTO T-4-35	Passes VHD Spec.	Remarks
						1 1/2"	5/8"	#4	#100	#270				
	3	1970	0.5-6	0-0.5	Yes	69.2	56.3	41.8	31.0	11.4	1 1/2	39.2%	----	Test #3 was dug in floor, 30' south of Test #2. About 6' of poorly sorted and bedded, bouldery and cobbly gravel. Water enters at 2.5'. The bottom is till.
	4	1970	0.5-8.5	0-0.5	Yes	80.5	65.8	48.5	24.0	8.3	1 1/2	25.9%	Gran. Borrow (Grav.)	Test #4 was dug in east edge of pit floor, 95' northeast of Test #1. The top 2.5' is reddish-brown gravel overlying 6' of bouldery, poorly bedded gravel with silt or clay. Water enters at about 6'. Bottom is till.
	5	1970	2.5-7.5	0-0.5	Yes	100	100	68.6	55.0	32.0	1	----	----	Test #5 was dug about 215' north of Test #2 atop north part of pit. About 2' of gravel (not sampled) overlies glacial till. East side of north part of pit appears to have a small quantity of gravel left. Also, there is gravelly material near Test #2. South part of pit has some gravelly floor material that has too much silt for Item 201. Also, the abrasion results were too high in this pit. Access is by a ford of the Deerfield River behind "Neil's Restaurant".
20	1	1970	1.5-13	0-1.5	Yes	100	58.6	48.9	33.0	15.7	1	---	----	Owner: Helen Corkins. This is a pit in a ridge east

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 20

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	1970	1-8	0-1	Yes	73.2	(2.2)	48.9	26.0	9.4	1½	---	Gran. Borrow (Grav.)	<p>of Ray Hill Road, at north limits of Wilmington Village. Feature is unmapped, but may be of ice-contact origin.</p> <p>Test #1 was in northwest face of pit. From 1.5' to 9' was stony silty sand; from 9'-13' was silty fine gravel with some boulders.</p> <p>Test #2 was on southeast face of pit. Material is fine gravel and gravelly sand. Pit has some boulders. Overall, material has too many fines for Item 201. Pit floor is 100' E-W x 60' N-S. Extension would be into ridge to the north.</p>
21	1A	1970	1-4	0-1	No	100	100	100	35.0	19.0	2½	---	Gran. Borrow (Grav.)	<p>Owner: Haynes Brothers Construction: Area is a flat meadow between Map Ident. No. 19 and the Deerfield River. Access is by the river ford behind "Neil's Restaurant". Meadow is large and has roughly north-south-trending low rolls or ridges and two troughs or swales, one at the break in slope at the west side of the meadow.</p> <p>Test #1 was dug 25' from west edge of meadow, just south of pit entrance. From 1'-4' is fine sand, sampled as #1A.</p>

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 21

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 VHD Spec.	Remarks
						% Passing								
						1½"	5/8"	#4	#100	#270				
	1B	1970	4-9	---	No	55.2	40.9	28.0	11.0	3.4	2	16.4%	Gravel	From 4'-9' was a fairly stony, well-graded gravel, sampled as #1B. Gravel continued in the bottom. Water entered at 8'. Deposit is probably of fluvial origin.
	2A	1970	1.5-5.5	0-1.5	No	100	99.3	97.9	16.6	3.5 3.4*		1½	Sand	Test hole #2 was dug 260' south of #1, and is 70' east of an old face of the pit in Map Ident. No. 19. From 1.5'-5.5', sampled as #2A, was fine sand with a few small pebbles.
	2B	1970	5.5-9	----	No	48.9	41.5	30.2	10.0	2.4	1	19.2%	Gravel	From 5.5'-9' was a fairly stony, well graded gravel with a few cobbles, sampled as #2B. Water enters at about 8'. Bottom is same gravel.
	3	1970	1.5-7.5	0-1.5	No	100	92.4	83.9	19.2	4.3 3.6*		----	Gran. Borrow (Sand)	Test #3 was dug 225' north of Test #1, and 120' southwest of the ford of Deerfield River. To 7.5' is brown fine sand underlain by gravel. Water enters at 8.5'. The gravel is similar to the other tests. Probably entire meadow has good gravelly material, but there would be a thick cap of sand to strip or exploit for borrow.
22	1A	1970	0-20	---	Yes	83.9	75.3	61.7	11.0	1.3	2	24.9%	Gran. Borrow (Grav.)	Owner: Robert Greene. (Gravel rights by Haynes Brothers) This is a large, high pit in a kame terrace, located south-

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 22

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing					Color Abrasion		Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270	AASHO T-21	AASHO T-4-35		
														east across Beaver Brook from the high school. Access is south from Vt. Rte. 9 past the Grand Union Store. The pit is about 275' east-west, with faces varying from 26' to 47'. An area 60' wide had been stripped behind the southwest face with its extension limited by a gully. Extensions are southeast to southwest in a wooded knoll. Material is variable from silt to gravel. East end of pit is silty sand. A thin cap of gravel begins in southeast corner and increases in thickness westward to center of south face. West of this are interbeds of silty sand and gravel. Pit was currently active when sampled.
	1B	1970	20-24	---	Yes	100	100	100	71.0	13.3	1	---	---	Test #1A was a hand sample on top 20' of south face. To 13' is pebbly sand and sand from 13'-20' is gravel with cobbles.
	2	1970	3-38	0-3	Yes	60.9	51.7	37.0	10.0	1.9	2½	28.4%	Gran. Borrow (Grav.)	Test #1B on bottom 4' of face, was sandy silt. Test #2 was sampled on east face in south lobe of pit. Top 3' is roots and silt; the bottom 7' is slough. From 3'-38' is gravel with zones of pebbly sand. There is some silty

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 23

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				
	3	1970	7-31	0-2	Yes	100	100	100	72.9	31.6	1	---	---	binder. Test #3 was on east face. From 7'-12', silt to clay; 12'-15', sand and silt; 15'-31', sand, silt, and clay. Face is 47' high.
23	1	1970	N	O	T	S	A	M	P	L	E	D		Owner: Berkley and Veller. This area is a brush pasture about 0.15 mile southeast of Town Highway 34. Area is within a mapped kame moraine. A large, shallow, abandoned pit is located on the east side of the pasture. The southwest side of the pasture has another pit, Map Ident. No. 24. Test #1 was dug atop north-east end of old pit. Material is unsorted and bouldery. Glacial till at 4'. No sample taken.
	2	1970	1-9.5	0-1	No	52.7	42.2	31.0	25.0	4.9	1½	35.1%	Gran. Borrow (Grav.)	Test #2 was dug in open area of pasture, 150' WSW of old pit. Material is a very stony and cobbly, vaguely stratified gravel with a few small boulders.
	3	1970	1.5-8	0-1.5	No	65.5	52.7	36.7	17.0	4.5	1	39.7%	Gran. Borrow (Grav.)	Test #3 was dug 320' south of Test #2. at edge of woods on lobe of pasture extending to the south. The material is fine gravel, fairly well strat-

TABLE I

WILMINGTON 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
						1 1/2"	5/8"	#4	#100	#270				
	48	1970	N	O	T	S	A	M	P	L	E	D		ified, to 4'. This overlies a thin seam of fine sand and cobbly gravel with some boulders. Test bottoms in bouldery gravel. Test #4 was dug 230' S. 30° E. of Test #2 atop break in slope to southeast. Material is mainly boulders and silt. No sample was taken. The material in this area seems best in the center and southwest, and would be exploited best from the pit at Map Ident. No. 24. Vicinity of old pit and southeast part of area is not granular.
24	1	1970	1-8	0-1	Yes	78.6	65.7	50.2	14.0	4.5	1	---	Gran. Borrow (Grav.)	Owner: Berkley and Veller. Area is pit and vicinity, southeast of Town Highway No. 34. It is located west of Map Ident. No. 23. West part of pit is depleted and over-grown by trees. More recent pit is at east part of area. Extension of pit extends from east side around to south but seems to be limited to a short distance south of the pit. Many boulders are around the pit floor. Test #1 was a handsample on upper northeast face. The

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 25

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
						1 1/2"	5/8"	#4	#100	#270				
	2	1970	0.5-9	0-0.5	No	50.1	36.5	30.0	17.0	5.1	1	----	Gran. Borrow (Grav.)	material is coarse gravel over fine gravel. At 8' is silty till. Face is 14' high. Test #2 was dug 110' N.45°E. of and about 10' above top of pit face. Material is a hard-packed, fairly fine gravel to 4.5'. Below 4.5' is cobbly and bouldery gravel with 10%-15% over 6". Very hard digging. Nested boulders prevented digging below 9'. Test represents an east extension of pit.
3	1970	N O T S A M P L E D											Test #3 was dug 160' N.55°W. of Test #2. The material is a bouldery and silty till. No sample taken. This test represents a northeast extension of the pit, and indicates no granular material in that direction.	
	4	1970	4-11	0-4	Yes	55.1	40.8	30.5	18.0	4.7	1	18.1%	Gran. Borrow (Grav.)	Test #4 dug on 8.5-foot southeast face and continued in floor. Top 4' is strippings and overburden over a quite stony cobble gravel. The test represents a limited south-sloping extension. Boulders hit at floor level. Till hit at 4' below floor.
	5	1970	3-10	0-3	Yes	54.1	36.0	21.2	20.0	5.7	1	46.8%	Gran. Borrow (Grav.)	Test #5 was dug on northeast face of old pit, at point 135' west of new pit. Face is 13'

*Percentage of Total Sample

TABLE I

WILLINGTON GRANULAR DATA SHEET NO. 26

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				
	6	1970	N	O	T	S	A	M	P	L	E	D	high. Top 3' is overburden; from 3'-10' is pretty well packed gravel with soft stones. A few cobbles and a boulder noted. Bottom 3' of face is till. Test #6 was dug on low face on west side of old pit, above a small brook, and 175' south of the Town Highway. Only 2' of gravel overlies a glacial till. No sample was taken.	
25	1	1970	0.5-13	0-0.5	Yes	100	100	100	12.0	2.1	1½	----	Sand Owner: Berkley and Veller. Area is a small pit in former low knoll in a rolling, southwesterly sloping field. Area is located about 0.10 mile south of the sharp turn in Town Highway No. 34, and is mapped as kame moraine. Test #1 was dug on 8-foot face and continued in floor on northeast side of pit. The material is clean, sharp sand that is capped by a stony lens. Wet, stony sand occurs at 5' below floor level.	
	2	1970	N	O	T	S	A	L	P	L	E	D	Test #2 was dug in floor, 65' southwest of Test #1. Material is bouldery and silty with gravel pockets. Huge boulders prevented digging	

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 27

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				
														below 3'. Material is probably glacial till. Pit is 110' x 70', and has a northeast extension.
26	1	1970	2-7.5	0-2	No	100	100	75.4	39.0	23.1	1	---	---	Owner: Ballantine Estate. This area is southwest to northwest extension of Map Ident. No. 27 (Green Pit). It is in kame moraine as mapped by D. P. Stewart. Test #1 was dug in old orchard, 60' north of a corner formed by north and northwest faces of Green Pit. A large boulder and a little silty gravel in the top overlies a stony glacial till.
	2A	1970	1-4.5	0-1	Yes	100	97.9	92.5	15.0	4.2 3.9*	1½	---	Sand	Test #2A was sampled on upper northwest face of small pit that is located southwest of the orchard, above the west side of the Green Pit. Top of face is fine sand with a few small pebbles.
	2B	1970	4.5-12	---	Yes	73.8	60.5	43.4	3.0	0.6	1½	33.2%	Gran. Borrow (Grav.)	Test #2B, from 4.5'-12', was of clean, well bedded gravel. Tests #2A - #2B represent an area of material 15' E-W x 150' N-S between the face and the southwest side of the feature.
	3	1970	0-4.5	---	Yes	70.9	51.9	35.5	7.0	2.7	1	22.4%	Gravel	Test #3 was dug in 110-x 40-foot pit floor on its east side. About 4.5' of cobbly fine gravel

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 28

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
						1 1/2"	5/8"	#4	#100	#270				
														overlies glacial till. Gravel is quite limited in quantity in this area. Material is mainly sand. Access to the vicinity of Tests #2 and #3 was from the east through the Green Pit.
27	1	1970	1.5-15	0-1.5	Yes	100	89.7	78.9	30.5	7.2 5.7*	1	---	Gran. Borrow (Sand)	<p>Owner: Robert Green.</p> <p>Area is pit. with junked cars on southwest side of Town Highway 38, west of Vt. Rte. 100. Pit has west to northwest extension into Map Ident. No. 26.</p> <p>Test #1 was a handsample on northwest face. 1.5'-4.5', silt to clay; 4.5'-8', fine gravel and pebbly sand; 8'-11', sand; 11'-15', silt to clay and boulders.</p> <p>There are only pockets of granular material in the pit.</p>
28	1	1970	2-14	0-2	Yes	100	66.7	57.3	15.3	7.6 4.4*	1	---	Gran. Borrow (Sand)	<p>Owner: Robert Green.</p> <p>This is a small pit north of Town Highway No. 38. Material is poorly sorted, with many boulders and blocks.</p> <p>Test #1 was a handsample on top 14' of face. 2'-7', silty and stony sand; 7'-14', pebbly sand. Bottom of face is silty and stony material. North end of face at level of 14' has a poorly bedded sandy gravel.</p>

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 29

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	1970	3-14	0-3	Yes	57.9	39.2	24.6	30.0	9.8	1	23.3%	Gran. Borrow (Grav.)	Test #2 dug on 14-foot face at north end of pit. Material is vaguely bedded sandy gravel with pockets of stony sand. Test represents an extension of the pit northeast along slope of hill pit is in. Bottom is glacial till. Northwest extension of pit is into Ballantine Estate.
29	1A	1970	1.5-5.5	0-1.5	No	100	93.6	88.8	11.5	2.1 1.9*	1½	---	Sand	Owner: Berkley and Veller. This is a knolly area with shallow pits located northeast of Vt. Rte. 9, east of junction with Town Highway 26, and is mapped as outwash. Face and base of knoll at west end of westerly pit sampled in Tests #1A and #1B. From 1.5'-5.5' is fine sand and pebbly coarse sand, sampled as #1A.
	1B	1970	5.5-16	---	No	65.6	51.1	37.2	8.0	2.9	1½	28.6%	Gran. Borrow (Grav.)	From 5.5'-16' is gravel that becomes coarser with depth. It is cobbly and wet in the bottom. The top of Test #1B is about 6' above floor of pit to the east.
	2	1970	0-5	---	Yes	53.0	40.1	29.3	20.0	6.4	1½	38.4%	Gran. Borrow (Grav.)	Test #2 was dug in center of 50- x 70-foot area of material between the west and central pits. An estimated 15% of material is boulder size. Till

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 30

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				
	3	1970	3.5-9	0-3.5	Yes	100	100	81.2	61.0	23.6	1	---	---	at 5', at level of floors of pits. Test #3 was sampled on south face of central pit and continued into floor. Top 3.5' is strippings. There is about 1.5' of sand and gravel overlying till.
	4	1970	1.5-6.5	0-1.5	Yes	100	79.8	75.2	25.5	4.9 3.7*	1	---	Gran. Borrow (Sand)	Test #4 was dug on northeast face of central pit, 35' north of pit road out to the southeast. The test represents a possible east to northeast extension. A northeast to north extension would be up a wooded slope. Layers of sand, lenses of gravel, and huge boulders were encountered in the test. The test bottoms on nested boulders.
	5	1970	N	O	T	S	A	M	P	L	E	D		Test #5 was exposed on northeast face of southeast pit, about 200' southeast of Test #4. The upper face is blocks and boulders; the lower face is wet silt to clay. Very little material is left around pits. Possibly a west extension of the west pit would have granular material - probably sand over gravel, and of shallow depth.

*Percentage of Total Sample

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 31

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (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				
30	1	1970	5-19	0-1.5	Yes	100	100	51.2	29.0	8.3	1	---	Gran. Borrow (Grav.)	Owner: Leonard Brown. This is a large high pit of two levels, located on the south side of Town Highway 26, east of its junction with Vt. Rte. 9. Many huge boulders noted. Material is probably glacial till. The pit is located at the north limit of a mapped outwash deposit. Test #1 was sampled in middle of 31-foot north face of upper level. From 1.5'-19' is roughly zoned, silty sand to silty gravel with boulders and silt. The materials is very hard packed. Little extension to the north will be allowed by the owner.
	2	1970	2-15	---	Yes	56.9	44.7	35.0	27.0	11.5	1	---	---	Test #2 was on 17-foot north face of lower level. The material is poorly bedded or zoned and dips west. The material is very hard packed and silty. The stones are angular. Below 15' the material is cemented.
	3	1970	18-31	0-1.5	Yes	100	100	58.5	60.0	16.4	1	--	--	Test #3 was taken on lower 13' of north face of upper level, 45' east of Test #1. A 3-foot layer of partly cemented fine sand and stones goes

TABLE I

WILMINGTON GRANULAR DATA SHEET NO. 32

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				
	4	1970	0-6	---	Yes	54.9	42.2	31.4	30.0	11.5	1	24.4%	---	to 2' of silt and 8' of silty sand with stones and decomposed rocks. The layers have a shallow southwest dip. Test #4 was dug in floor of upper level at its northeast side. The material is hard-packed, or partly cemented, fine gravel, vaguely bedded, and somewhat silty. Stony silty sand hit at 5'. A huge boulder prevented digging below 6'.
	5	1970	0-4.5	---	Yes	100	100	55.6	37.0	16.7	1	---	---	Test #5 was dug in floor of lower level. Material is unsorted and unstratified silty sand with some silty clay and stones. Huge boulders occur at 4'. Middle strata of pit appear better sorted and stratified. They are all partly cemented or hard-packed. There is only one extension of pit, and that is to the north to northwest. It is limited to about 40'. Original feature pit is in was a knoll.

TABLE I

Supplement

WILLIINGTON PROPERTY OWNERS - GRANULAR

Map Ident. No.

Ballantine Estate	26
Berkley and Veller	23, 24, 25, 29
Brown, Leonard	30
Brown, Weston-Clark, Rosella	16
Chimney Hill, Inc.	1
Corkins, Helen	20
Crafts, J. B.	17
Cross, Alton	10
Fabri, Mrs.	2, 3
Green, Robert	27, 28
Greene, Robert	22
Haynes Brothers	19, 21
Howe, Francis	13, 14
Howe, Jasper	4, 5
Kfoury, James	11
Lundsted, J.	12
Rotolo, Charles-Demattia, Andy	6, 7, 8, 9
Wheeler, Henry	15
Wheeler, H. B.	18

TABLE II

WILMINGTON ROCK DATA SHEET NO. 1

Area No.	Field Test No.	Year Field Tested	Rock Type	Exist- ing Quarry	Method of Sampling	Abrasion AASHO T-3	Remarks
1	1	1970	Schist	Yes	Chip	4.3%	<p>Owner: Peter Wimmelmann. This area is a small quarry on the northeast side of Town Highway No. 40, just northwest of its junction with Town Highway No. 41. The quarry is 30' long and 70' deep, with a maximum face height of 40' at its northeast side. The rock is the Hoosac Schist. It strikes N. 40°-60° W. and dips 20° northeast. A nearly vertical joint plane parallel to the strike of the rock forms the northeast face. The rock is a fairly competent quartz-feldspar-biotite schist that has gneissose layers. The break is blocky-tabular to thin tabular, depending on relative abundance of quartz-feldspar and platy minerals. Large quartz pods or lenses and stringers are common. In places these are mineralized with sulphides and large biotite.</p> <p>Test #1 was a sample at the east corner of the quarry for a vertical height of 21'. It had an AASHO-T-96 abrasion result of 43.1%.</p>
	2	1970	Schist	Yes	Chip	6.9%	<p>Test #2 was of random blocks from around the quarry floor. Test #2 had an AASHO-T-96 abrasion result of 45.4%.</p> <p>The quarry is near the nose of a north easterly plunging syncline. More of the Hoosac Schist is well exposed on the north side of Town Highway No. 40, east of the quarry, in a wooded area.</p>

TABLE II

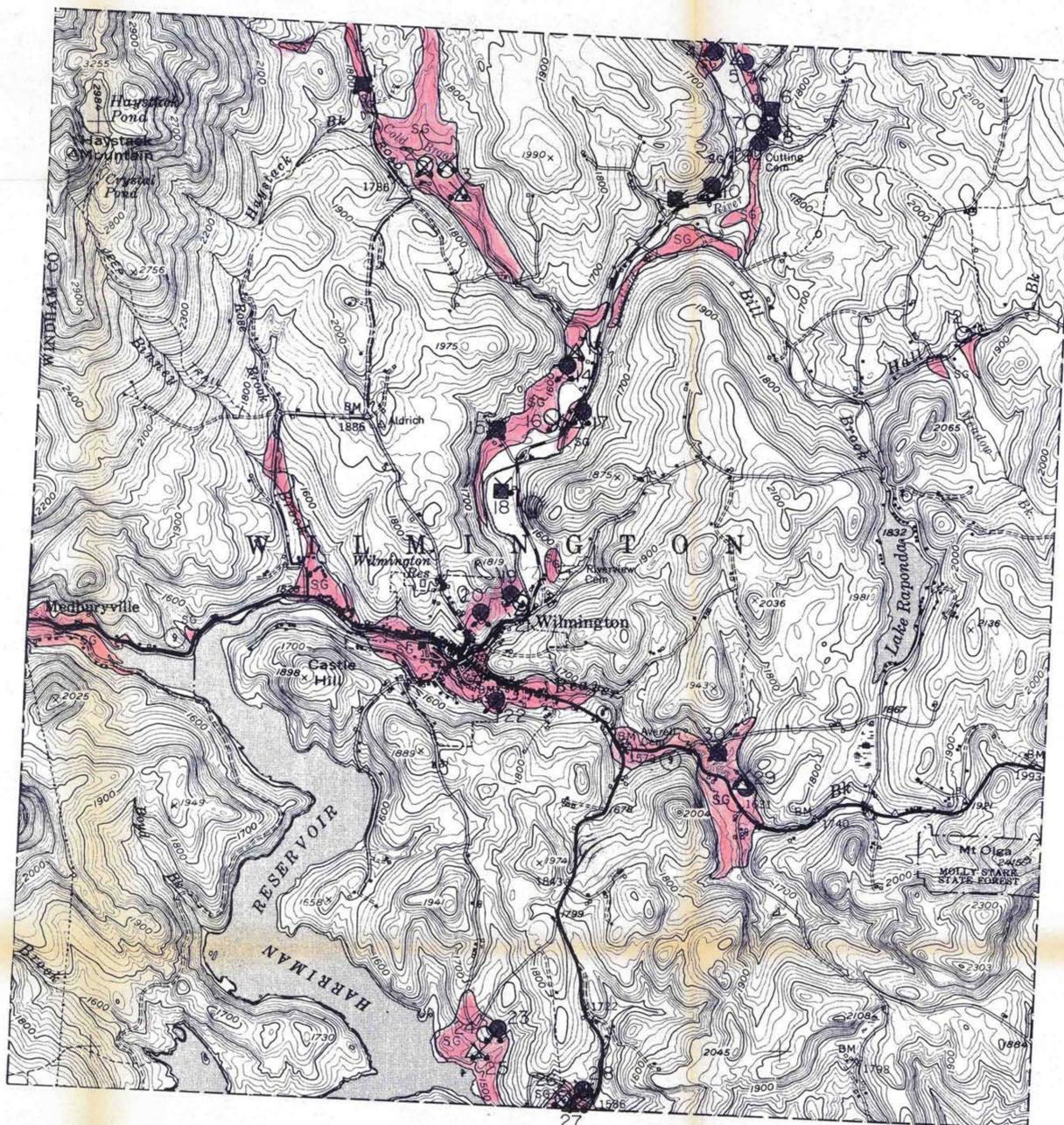
Supplement

Wilmington Property Owners - Rock

Map Ident. No.

Wimmelman, Peter

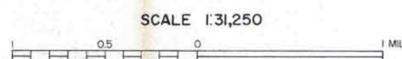
1



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)

WILMINGTON



SCALE 1:31,250
 CONTOUR INTERVAL 20 FEET
 1970

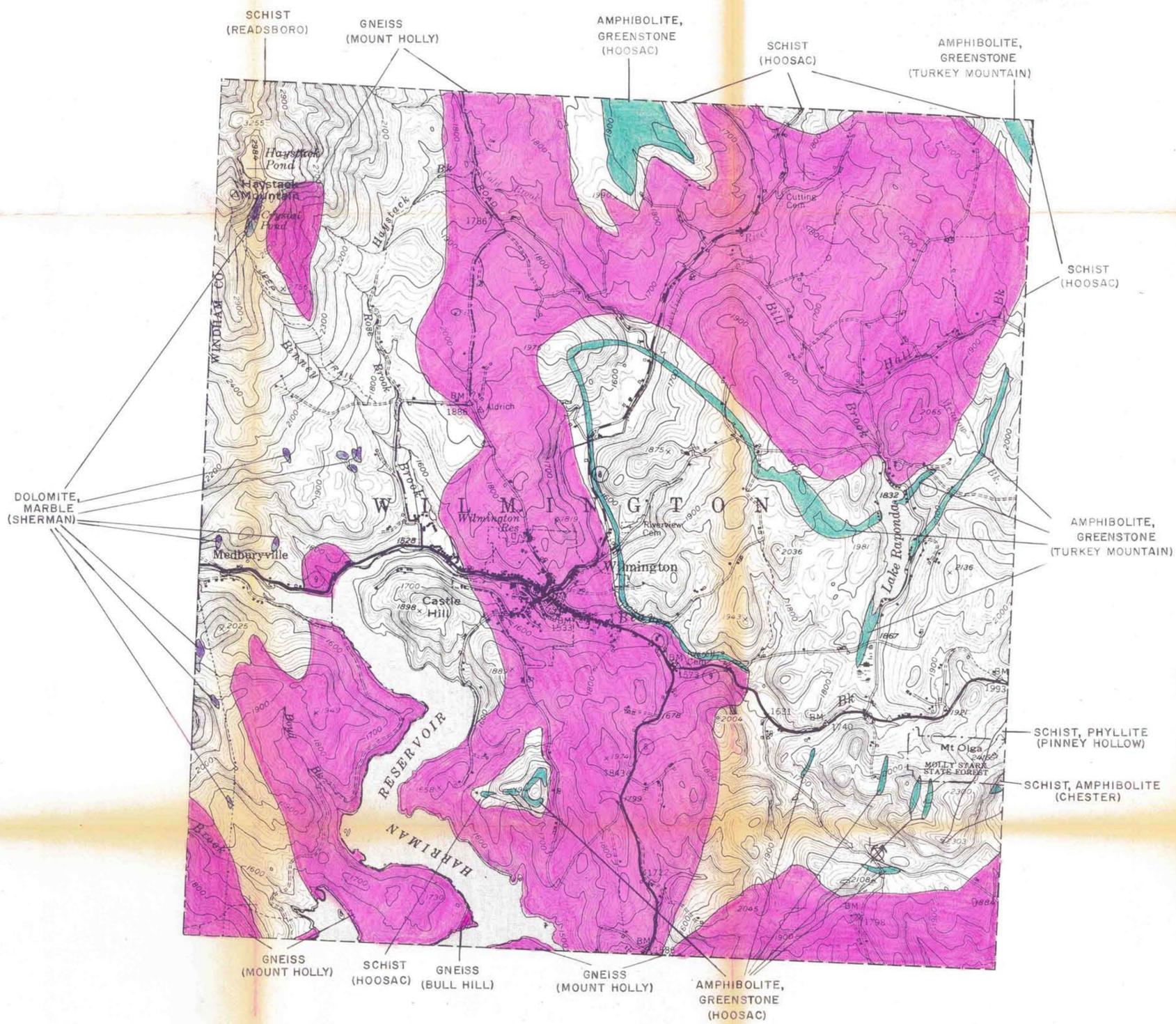
GRANULAR MATERIALS MAP

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

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

PLATE 1 GRANULAR

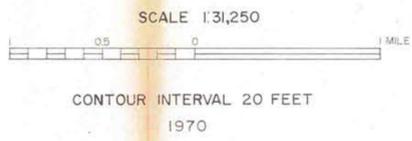
DATE				
BY				



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
- IDENTIFICATION NUMBER (refer to data sheets)

WILMINGTON



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

DATE				
BY				