

**SURVEY OF HIGHWAY CONSTRUCTION MATERIALS
IN THE TOWN OF SANDGATE, BENNINGTON COUNTY, VERMONT**

prepared by

**Engineering Geology Section, Materials Division
Vermont Department of Highways**

in cooperation with

**United States Department of Transportation
Federal Highway Administration**

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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 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.

Inclosures

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 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 Sandgate is situated in the northwest corner of Bennington County. Sandgate is bounded on the north by Rupert, on the east by Manchester, on the south by Arlington. The northeast corner of Sandgate touches Dorset; the southeast corner touches Sunderland. The town is bounded on the west by the New York State Line. (See County and Town Outline Map of Vermont on the following page.)

Sandgate lies within the Taconic Mountain Physiographic Subdivision of the New England Upland. The topography is mostly characterized by rolling to steep terrain, elevation of which varies from 3,320 feet at the summit of Bear Mountain in the northeast part of town, to less than 660 feet where the Green River flows across the Arlington Town Line in the south.

Principal drainage is to the south via Pruddy Brook and several unnamed brooks, all of which flow into the Green River which continues south to empty into the West flowing Batten Kill River in Arlington. Terry Brook, with several unnamed tributaries, flows southwestward into Camden Creek. Dry Creek flows southwest across the northwest corner of town. Chunks Creek flows southwest across the southwest corner of town to become Chunks Brook in Arlington. All major drainage flows west or southwest to New York State.

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 test result from the chip samples, the material source is included in this report as being satisfactory.

Discussion of Rock and Rock Sources

It should be noted that information on the Rock Materials Map is somewhat simplified. (For a more detailed description of the respective rock formations, see the Summary included in this report.) In the Summary it is apparent that complex metamorphic rocks comprise almost the entire lithology within the town of Sandgate.

Occasionally, rocks belonging to the same formation and exhibiting similar characteristics (i.e. color, texture, etc.) may produce different abrasion results owing to different physical and chemical properties. Therefore, in no case should satisfactory test results of an area be construed to mean that the same formation, even in the same area, will not later produce unsatisfactory material. This is especially true of metamorphic rocks.

The town of Sandgate is overlain by much glacial debris and is heavily wooded. The rocks in the town are, for the most part, either inaccessible due to terrain, heavy vegetation, glacial cover, or else are in formations not productive of material suitable for Crushed Stone for Sub-base.

Most of Sandgate is underlain by slates, phyllite and thin-bedded quartzite of the St. Catherine formation.

The Dolostone, limestone and marble of the Bascom Formation occur in scattered parts of the east part of town. The outcrops were too thin-bedded to afford a sample.

The phyllite, marble, and dolostone of the Brezee Formation is mapped in four small parts in the east side of town; however only the Brezee outcropping in the west part of town was sampled.

Rock Area No. 1 was south of Town Highway No. 2 and was sampled uphill from southeast to northwest.

Rock Area No. 2 was northwest of Town Highway No. 10, however, heavy woods and several streams would have to be taken into consideration before developing this source, which occurs at the base of steep, broken ledges.

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. Test 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), and the Los Angeles Method (AASHO T-96).

Discussion of Sand and Gravel Deposits

Granular materials in Sandgate suitable for highway construction and related uses occur as kame terraces, in or near the valley of the Green River. Some outwash deposits occur between the elevations of 850' and 950' in West Sandgate. Kame terrace deposition is found between 900' and 1000' in West Sandgate. South of Sandgate village kame terrace deposition occurs between 700' and 800', while northeast of the village, kame terraces are found from 800' to 1,100'. All Sandgate gravels, regardless of origin, have a high percentage of tabular stones, which are often phyllitic and soft.

Pits having specification gravel listed in order of most to least promising are at Map Identification Nos. 14, 8, and 6.

Non-pit sources of specification gravel also listed in that order are at Map Identification Nos. 4, 2, 13, 7, 5, and 15. Map Identification No. 4, a fluvial gravel in West Sandgate is the best undeveloped source.

The only source of specification sand is at Map Identification No. 2, a field north of Town Highway No. 2, west of West Sandgate. Other areas have granular material which would have to be screened for sand.

Sandgate is too high in elevation and has abrupt relief which did not favor the development of vast granular deposits (as those found further south and at lower elevations, in Bennington, Shaftsbury, Pownal, etc.)

SUMMARY OF ROCK FORMATIONS IN THE TOWN OF SANDGATE

Bascom Formation: Interbedded dolomite, limestone or marble, calcareous sandstone, quartzite and limestone breccia; irregular dolomitic layers, thin sandy laminae, and slaty or phyllitic parts characterize limestone and marble of lower, middle and upper parts of the Bascom respectively; south of West Rutland, it includes some of the Chipman Formation.

St. Catherine Formation: Purple, gray-green, and variegated slate and phyllite containing minor interbeds of white to green quartzite; locally albitic. Purple and green chloritoid-bearing slate and phyllite.

Breeze Formation: Dark gray to black phyllite with beds of blue-gray marble, dark gray dolomite, sandy dolomite, and dolomitic sandstone, in upper part; beds of massive quartzite as much as 20 feet thick occur locally and in places contain pebbles of blue quartz. Phyllites are locally highly albitic.

GLOSSARY OF SELECTED GEOLOGIC TERMS

Fluvial - A term used to denote formation by or relation to streams.

Glaciofluvial - A term used to denote formation by or relation to streams within, upon or emerging from glacial ice.

Igneous rocks - Rocks formed by the solidification of hot mobile rock material.

Joint - A fracture or parting plane along which there has been little if any movement parallel with the walls.

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 sands and gravels deposited by streams between a glacier and an adjacent valley wall.

Kettle - A depression found in glacial drift believed to have originated when a block of ice, left isolated by general melting away of a glacier, is partly buried by sediments and later melts entirely away. They are usually undrained.

Lobate - Having lobes, or resembling a lobe.

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

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

Phyllitic - Pertaining to fine-grained foliated metamorphic rock intermediate between the mica schists and slates, into which it may grade. Cleavage is due to the large amount of potash mica, sericite.

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 July, 1971.

DIVISION 700 - MATERIALS

Section 703, Soils and Borrow Materials

703.03 Sand Borrow and Cushion

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

Table 703.03A - Gradation Requirements

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Total Sample	Sand Portion
2"	100	
1½"	90-100	
½"	70-100	
No. 4	60-100	100
No. 100		0- 30
No. 200		0- 12

703.05 Granular Borrow

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

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

Table 703.05A - Gradation Requirements

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Total Sample	Sand Portion
No. 4	20-100	100
No. 200		0- 15

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

Section 704, Aggregate

704.05 Gravel for Sub-base

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

(a) Grading

The gravel shall meet the requirements of the following table:

Table 704.05A - Gradation Requirements

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Total Sample	Sand Portion
No. 4	(20-60)	100
No. 100		0-18
No. 200		0- 8

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

(b) Percent of Wear

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

704.06 Crushed Stone for Sub-base

Crushed Stone for Sub-base shall consist of clean, hard, crushed stone, uniformly graded, reasonably free from dirt, deleterious material, pieces which are structurally weak and shall meet the following requirements:

(a) Source

This material shall be obtained from approved sources and the area from which this material is obtained shall be stripped and cleaned before blasting.

(b) Grading

This material shall meet the requirements of the following table:

Table 704.06A - Gradation Requirements

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

(c) Percent of Wear

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

(d) Thin and Elongated Pieces

Not more than 30 percent, by weight, of thin and elongated peices will be permitted.

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

(e) Filler

The filler shall be obtained from approved sources and shall meet the requirements as set up for Sand Cushion, Subsection 703.03.

(f) Leveling Material

The leveling material shall be obtained from approved sources and may be either crushed gravel or stone screening produced by the crushing process. The material shall consist of hard durable particles, reasonably free from silt, loam, clay or organic matter.

This material shall meet the requirements of the following table:

Table 704.06B - Gradation Requirements

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Total	Sample
1"	100	
3/4"	90-100	
1/2"	50- 90	
No. 4	30- 70	
No. 100	0- 20	
No. 200	0- 10	

704.07 Crushed Gravel for Sub-base

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

(a) Grading

The crushed gravel shall be uniformly graded from coarse to fine and shall meet the requirements of the following table:

Table 704.07A - Gradation Requirements

Grading	Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
		Total Sample	Sand Portion
Coarse	4"	100	
	No. 4	25- 50	100
	No. 100		0- 20
	No. 200		0- 12
Fine	2"	100	
	1 1/2"	90-100	
	No. 4	30- 60	100
	No. 100		0- 20
	No. 200		0- 12

(b) Percent of Wear

The percent of wear of the parent gravel shall be not more than 20 when tested in accordance with AASHTO T 4, or the crushed gravel a percent of wear of not more than 35 when tested in accordance with AASHTO T 96.

(c) Fractured Faces

At least 30 percent, by weight, of the stone content shall have at least one fractured face.

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

704.09 Dense Graded Crushed Stone for Sub-base

Dense Graded Crushed Stone for Sub-base shall consist of clean, hard, crushed stone, uniformly graded, reasonably free from dirt, deleterious material and pieces which are structurally weak, and shall meet the following requirements:

(a) Source

This material shall be obtained from approved sources and the area from which this material is obtained shall be stripped and cleaned before blasting.

(b) Grading

This material shall meet the requirements of the following table:

Table 704.09A - Gradation Requirements

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

(c) Percent of Wear

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

(d) Thin and Elongated Pieces

Not more than 30 percent, by weight, of thin or elongated pieces will be permitted.

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

704.10 Gravel Backfill for Slope Stabilization

Gravel Backfill for Slope Stabilization shall be obtained from approved sources, consisting of satisfactorily graded, free draining, hard, durable stone and coarse sand reasonably free from loam, silt, clay, and organic material.

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

Table 704.10A - Gradation Requirements

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Total Sample	Sand Portion
No. 4	20-50	100
No. 100		0- 20
No. 200		0- 10

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

704.11 Granular Backfill for Structures

Granular Backfill for Structures shall be obtained from approved sources, consisting of satisfactorily graded, free draining granular material reasonably free from loam, silt, clay, and organic material.

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

Table 704.11A - Gradation Requirements

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Total Sample	Sand Portion
3"	100	
2½"	90-100	
No. 4	50-100	100
No. 100		0- 18
No. 200		0- 8

SANDGATE GRANULAR DATA SHEET NO. 1

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
1	1	1972	1-11	0-1	No	100	86	65	45	19	11	14.2%	Gran. Borrow (Grav.)	<p>Owner: Millard Smith</p> <p>Area is hayfield northwest of owner's house, north of Town Highway No. 2 and just east of the New York State Line. Field has a large depression near the house which has a spring house in it.</p> <p>Test #1 was dug 170' N80°W of power pole #421 67. The bedding dipped northward 10°-15°. Log of test: 0-1', sod; 1'-7', coarse to fine angular to subangular gravel; 7'-8', silt seam; 8'-11', gravel, as above; 11'-13', silt.</p>
	2	1972	0.5-9	0-0.5	No	81	80	64	49	18	15	14.8%	Gran. Borrow (Grav.)	<p>Test #2 was dug near new house, 100' northeast of pole No. 68-1, and 215' N65°W of Test #1. Log of test: 0-0.5', sod; 0.5'-6', cobbly fine gravel; 6'-7', silt layer; 7'-9', layer of gravel which is slightly finer than the gravel in 0.5'-6' interval; 9'-11', silt.</p>
	3A	1972	0.5-7	0-0.5	No	83	79	63	46	22	19	16.6%		<p>Test #3A was dug in north corner of field, 200' N40°E of Test #2 and 65' S40°W of 40-inch maple. Bedding was nearly horizontal. Log of test: 0-0.5', sod; 0.5'-7', fine tabular gravel.</p>

SANDGATE 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						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	3B	1972	7-11.5	----	No	100	100	100	100	61	34	---	-----	Test #3B was below Test #3A; Log of test: 7'-11.5', silty fine sand; 11.5'-13', coarse gravel (not sampled).
	4	1972	4-7	0-4	No	86	76	63	47	11	10	15.7%	Gran. Borrow (Grav.)	Test #4 was dug in bottom of depression, 260' S75°E of, and 25' below Test #3. Depression is probably a kettle hole. Log of test: 0-4', sod and topsoil; 4'-7', poorly sorted, fine gravel; 7', water; 7'-11', gravel, coarser than above; 11', blue clay.
2	1A	1972	1-5.5	0-1	No	88	82	64	51	39	26	15.7%	Gran. Borrow (Grav.)	Owner: Millard Smith Area is field northeast of owner's house and north of Town Highway No. 2. Test #1A was dug 70' northeast of 40-inch maple. The bedding dipped northwesterly. Log of test: 0-1', sod; 1'-5.5', angular to sub-angular gravel; 5.5', sand. Gravel was poorly sorted.
	1B	1972	5.5-8.5	-----	No	100	100	100	97	16	12	-----	Sand	Test #1B was below Test #1A; Log of test: 5.5'-8.5', silty sand; 8.5'-11', silt; 11', gravel.
	1C	1972	11-13	-----	No	76	68	53	36	12	8	20.7%	Gravel	Test #1C was below #1B; Log of test: 11'-13', gravel (this looks better than in Test #1A.)

SANDGATE 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						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks					
						2"	1½"	1"	#4	#100	#200								
	2A	1972	0.5-6	0-0.5	No	S	A	M	P	L	E	W	A	S	L	O	S	T	Test #2A was dug in field 340' N50°E of Test #1. Log of test: 0-0.5', sod; 0.5'-6', horizontal beds of brown, slaty fine gravel. Sample was lost.
	2B	1972	6-9.2		No	100	100	100	100	39	12	----	Gran. Borrow (Sand)	Test #2B was below Test #2A. Log of test: 6'-9.5', silty fine sand; 9.5', gravel.					
	2C	1972	9.5-12.5		No	90	83	59	37	7	4	9.2%	Gravel	Test #2C was below Test #2B. Log of test: 9.5'-12.5', horizontal beds of cobbly gravel that was coarser than the gravel of Test #2A.					
	3	1972	1-5	0-1	No	77	74	59	42	6	5	11.3%	Gravel	Test #3 was dug 380' S80°E of Test #2 and 20' west of property line iron pin near Town Highway No. 2. Log of test: 0-1', sod; 1'-5', well-packed, horizontally bedded, brown gravel; 5', stones and silt.					
3	1	1972	2.5-4.5	0-2.5	No	94	88	70	50	16	12	----	Gran. Borrow (Grav.)	Owner: Stanley and Douglas Lincoln Area is a high grassy hillside beyond the north end of Town Highway No. 9, and west of the access road to Wulff's airstrip. Test #1 was dug on the upper middle slope of grassy hillside. Log of test: 0-2.5', sod; 2.5'-					

SANDGATE GRANULAR DATA SHEET NO. 4

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	2	1972	2-3	0-2	No	100	88	80	63	52	46	---	-----	4.5', dirty, silt-coated, fine gravel; 4.5', silt and stones. Test #2 was dug on small knoll 200' N10°W of, and 40' above Test #1. Log of test: 0-2', sod and topsoil; 2'-3', poorly sorted silt and pebbles; 3'-6', silt and stones.
4	1	1972	1-5.5	0-1	No	82	77	56	31	4	3	22.1%	Gravel	Owner: Stanley and Douglas Lincoln. Area is low field with sugar shack west of Town Highway No. 9 and 0.16 mile north of Town Highway No. 2. Horizontal beds of tabular, fluvial gravel were noted in tests throughout the field. Test #1 was dug in central part of field, 135' S50°E of sugar shack. Log of test: 0-1', sod; 1'-5.5' silty, coarse slate gravel; 5.5', water; 5.5'-10', coarse gravel.
	2	1972	1-4.5	0-1	No	66	52	33	18	8	6	26.3%	Gran. Borrow (Grav.)	Test #2 was dug 185' southwest of Test #1. Log of test: 0-1', sod; 1'-4.5', coarse, cobbly gravel; 4.5', water; 4.5'-12', coarse gravel.
	3	1972	1-6.5	0-1	No	81	76	48	29	9	7	22.3%	Gravel	Test #3 was dug 200' N20°E of Test #1. Log of test: 0-1', sod; 1'-6.5', coarse silty gravel; 6.5', water; 6.5'-13', coarse gravel.
	4	1972	1-8	0-1	No	91	82	56	36	6	5	21.3%	Gravel	Test #4 was dug in northwest

SANDGATE 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						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	5	1972	1-8	0-1	No	87	72	45	28	1	0	17.0%	Gravel	<p>corner of field, 270' N50°E of Test #3. Log of test: 0-1', sod; 1'-8', coarse gravel; 8', water; 8'-13', coarse gravel.</p> <p>Test #5 was dug in northeast corner of field, 170' S75°E of Test #4. Log of test: 0-1', sod; 1'-5.5', brown, poorly sorted sticky slate gravel; 5.5'-8', gray, poorly sorted gravel. Water at 8'. Because upon field inspection this material was much poorer than that at the other test sites it is believed to have been wrongly tabulated during testing.</p>
5	1	1972	1-5.5	0-1	No	74	64	40	23	11	9	17.5%	Gran. Borrow (Grav.)	<p>Owner: Stanley and Douglas Lincoln.</p> <p>Area is a lobate flat-topped grassy knoll southeast of Map Ident. No. 4 access to which is also west of Town Highway No. 9 and about 0.16 mile north of Town Highway No. 2.</p> <p>Test #1 was dug near north end of field at top knoll. Log of test: 0-1', sod; 1'-4', coarse gravel; 4'-5.5', coarse gravel with angular boulders. The surface of field has large boulders.</p>
	2	1972	1-11.5	0-1	No	88	76	47	27	5	4	19.0%	Gravel	<p>Test #2 was dug near southeast corner of knoll 250' S10°W of Test #1 and 35' N30°W of a yellow iron</p>

SANDGATE GRANULAR DATA SHEET NO. 6

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	3	1972	1-7	0-1	No	84	75	54	39	12	10	21.7%	Gran. Borrow (Grav.)	<p>pin on property line near Town Highway No. 9. Log of test: 0-1', sod; 1'-5.5', coarse gravel; 5.5'-6.5', boulders; 6.5'-11.5', coarse gravel.</p> <p>Test #3 was dug near southwest corner of knoll, 180' N80°W of Test #2. Log of test: 0-1', sod; 1'-7', very coarse gravel with boulders; 7', very large boulder or bedrock.</p>
6	1A	1972	0.5-20	0-0.5	Yes	90	84	65	47	5	3	17.5%	Gravel	<p>Owner: John Poulin and John Yanzo (formerly Stanley and Douglas Lincoln).</p> <p>Area is a pit on the west slope of a kame terrace east of Town Highway No. 9 and north of Town Highway No. 2. Property was purchased 8/12/72.</p> <p>Test #1A was a hand shovel sample of the north face, 20' west of property line fence. Log of test: 0-0.5', sod; 0.5'-20', interbedded gray slaty fine gravel, pebbly sand and silt seams. Most of the stones were tabular.</p>
	1B	1972	20-37	----	Yes	85	82	65	49	7	5	18.8%	Gravel	<p>Test #1B was dug below Test #1A. Log of test: 20'-37', fine gravel with sand lenses. Unable to sample from 37'-42' due to caving.</p>

SANDGATE GRANULAR DATA SHEET NO. 7

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	2	1972	0.5-10	0-0.5	Yes	89	76	46	27	4	3	14.3%	Gravel	Test #2 was dug in floor, 80' S5°W of Test #1. Log of test: 0-0.5', overburden; 0.5'-10', gravel with some sand beds; water and gravel at 10'.
	3A	1972	0.5-5	0-0.5	Yes	94	85	64	47	8	5	20.3%	Gravel	Test #3A was dug in floor of pit lobe, 100' south of Test #2. Log of test: 0-0.5', overburden; 0.5'-5', gravel.
	3B	1972	5-13.5	----	Yes	100	100	100	100	39	19	-----	---	Test #3B was dug below Test #3A. Log of test: 5'-7', fine silty sand, 7'-7.5', silt seam; 7.5'-13.5', fine silty sand.
	4	1972	0.5-12.5	0-0.5	No	81	71	49	33	8	6	20.2%	Gravel	Test #4 was dug near west edge of narrow field on terrace below pit, 250' S25°W of Test #3. Log of test: 0-0.5', sod; 0.5'-2', large tabular boulders; 2'-12.5', gravel with an occasional boulder.
	5	1972	0.5-8	0-0.5	No	71	67	48	33	5	4	19.8%	Gravel	Test #5 was dug near southwest edge of low terrace, 160' S12°W of, and 6' below Test #4. Log of test: 0-0.5', sod; 0.5'-8', gravel; 8', water; 8'-13', gravel. This material is finer and better sorted than in Test #4.
7	1A	1972	0.5-15	0-0.5	Yes	95	91	75	57	9	6	17.6%	Gravel	Owner: Mrs. William Lomberg Area is a grassy terrace east of and above the pit at Map Identification No. 6. The area is east

SANDGATE GRANULAR DATA SHEET NO. 8

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	¾"	#4	#100	#200			
														of Town Highway No. 9 and north of Town Highway No. 2. The westernmost part of this area includes the east face of the above mentioned pit.
	1B	1972	25-35	---	Yes	96	94	72	55	7	4	19.8%	Gravel	<p>Test #1A was on the upper 15 feet of the 35-foot east face in the north end of pit. Log of test: 0-0.5', overburden; 0.5'-3.5', silty sand; 3.5'-15', interbedded gravel, fine gravel, pebbly sand, sand and silt seams; bottoms on sloughed material.</p> <p>Test #1B was below Test #1A. log of test: 15'-25', caving (not sampled); 25'-35', fine gravel and sand layers.</p>
	2A	1972	3.5-6.5	0-1.5	No	100	100	100	100	90	67	----	----	<p>Test #2A was in northwest corner of field, 35' east of property line, and 40' south of property line. Log of test: 0-1.5', sod and silt, 1.5'-3.5', pebbly sand (not sampled); 3.5'-6.5', silty sand; bottoms at 6.5' on gravel.</p>
	2B	1972	6.5-10.5	----	No	90	90	74	52	7	5	18.1%	Gravel	<p>Test #2B was below Test #2A. Log of test: 6.5'-10.5', fine gravel.</p>
	3	1972	3-10	0-3	No	93	93	67	47	28	25	19.2%	----	<p>Test #3 was on east side of field, 165' S35°E of Test #2A and was a composite of basically the same material as in Tests #2A and #2B. Log of test: 0-3', sod and silt; 3'-6.5', silty sand; 6.5'-10', fine gravel; 10'-12', silt; bottoms on bedrock at 12'.</p>

SANDGATE 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						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	1½"	#4	#100	#200			
	4	1972	2-10.5	0-2	No	100	87	72	57	9	4	24.1%	Gravel	Test #4 was 70' northeast of property line fence at top of north end of pit, and 300' S40°W of Test #3. Log of test: 0-2', sod; 2'-3', sand; 3'-6', silty sand; 6'-10.5', sand; bottoms at 10.5' on gravel. Note: It is thought that the tags for Tests #3 and #4 may have been placed with the wrong material in the laboratory.
	5	1972	1-10.5	0-1	No	88	83	65	46	7	5	17.8%	Gravel	Test #5 was near south end of field, 610' south of Test #4. Log of test: 0-1', sod; 1'-10.5', gravel with a thin silt seam at 5'; 10.5'-12.5', silty fine sand (not included in sample).
8	1	1972	10-38	0-0.5	Yes	93	87	64	45	6	4	23.6%	Gravel	Owner: Mrs. Carol Stroffoleno Area is a pit and extension northwest of, and above the junction of Town Highway No. 2 and Town Highway No. 12. Feature is a kame terrace. Pit is being used by the town. Test #1 was dug by hand on northeast face. Log of Test #1: 0-0.5', sod; 0.5'-10', inaccessible fine gravel; 10'-38', interbedded sandy gravel, fine gravel, and silty sand. Test bottoms on same on floor.

SANDGATE GRANULAR DATA SHEET NO. 10

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	¾"	#4	#100	#200			
	2	1972	0.5-13	0-0.5	Yes	90	85	60	40	11	7	18.3%	Gravel	Test #2 was dug in floor, 110' N75°W of power pole just southeast of pit. Log of test: 0-0.5', overburden; 0.5'-13', well-packed, tabular, fine gravel.
	3	1972	1-13	0-1	No	79	75	59	41	14	9	25.2%	Gran. Borrow (Grav.)	Test #3 was in field, 45' S85°W of the southwest corner of shed near barn. Log of test: 0-1', sod; 1'-8', well-packed tabular gravel; 8'-8.5', silt seam; 8.5'-13', gravel.
	4	1972	1-13.5	0-1	No	100	95	74	53	13	9	23.9%	Gran. Borrow (Grav.)	Test #4 was in field near gully, 300' S15°W of Test #3. Log of test: 0-1', sod; 1'-13.5', gravel; water seep at 13.5'.
	5	1972	1-13	0-1	No	77	75	54	36	6	5	24.7%	Gravel	Test #5 was at southeast corner of field, 450' S30°W of Test #4. Log of test: 0-1', sod; 1'-13', fine to cobbly, well-packed tabular gravel.
	6	1972	1-8.5	0-1	No	--	100	92	70	33	26	--	----	Test #6 was on small knoll near trees in southwest part of field, 400' N30°W of and 33' above Test #5. Log of test: 0-1', sod; 1'-8.5', silt and angular stones.
	7	1972	1-13	0-1	No	91	87	65	48	24	19	14.2%	---	Test #7 was at base of slope in field, 180' N75°E of Test #6. Log of test: 0-1', sod; 1'-13', gravel, becoming coarser with depth; bottom at 13' in gravel with a high silt content.

SANDGATE 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						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	¾"	#4	#100	#200			
	8	1972	1-11.5	0-1	No	94	87	62	46	31	24	9.8%	----	<p>Test #8 was atop small knoll near west side of field, 210' N15°E of and 13' above Test #7. Log of test: 0-1', sod; 1'-11.5', poorly sorted, hard-packed gravel with a high silt content; bottoms at 11.5' on boulders.</p> <p>Test #9 was in field near small knoll, 130' S70°E of Test #8, and 300' N80°W of the northwest pit. face. Log of test: 0-1', sod; 1'-6', interbedded gravel and fine gravel; 6'-7.5', silt and pebble seam; 7.5'-13', silty gravel.</p>
9	1A	1972	0.5-6	0-0.5	Yes	86	84	63	43	6	4	20.9%	Gravel	<p>Owner: Leo Laustra</p> <p>Area is very small pit in field behind burned house west of Town Highway No. 2, 0.20 mile south of Town Highway No. 12. No permission to sample with a backhoe was obtained. Test #1A was on the north-east face. Log of test: 0-0.5', sod; 0.5'-6', dirty slate gravel; bottoms in sloughed material.</p>
10	1A	1972	0.5-6	0-0.5	Yes	92	88	65	44	5	3	18.9%	Gravel	<p>Owner: Mrs. Carol Stroffoleno</p> <p>Area is small pit west of Town Highway No. 2, and 0.5 mile south of Town Highway No. 12. No permission to sample with a backhoe was obtained. Test #1A was on north face of pit. Log of test: 0-0.5',</p>

SANDGATE GRANULAR DATA SHEET NO. 12

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	¾"	#4	#100	#200			
														sod; 0.5'-6', interbeds of dirty slate gravel, silt, sand and pebbles. Bottoms on sloughed material. Floor has water.
11	1A	1972	0.5-5.5	0-0.5	Yes	100	85	61	42	20	15	24.9%	Gran. Borrow (Grav)	<p>Owner: Theodore H. Cowee (formerly William Lomberg).</p> <p>Area is an inactive pit west of, and above Town Highway No. 2, 0.54 mile north of the junction of State Aid Highway No. 1 and Town Highway No. 2. No permission to sample with a backhoe was obtained. Test #1A was on the north face of upper level of pit. Log of test: 0-0.5', sod; 0.5'-5.5', dirty slate gravel with indistinct bedding. Bottoms at 5.5' on sloughed material.</p>
	2A	1972	0.5-8	0-0.5	Yes	93	87	59	41	18	14	28.6%	Gran. Borrow (Grav)	<p>Test #2A was on the north face of lower level of pit. Log of test: 0-0.5', overburden; 0.5'-8', dirty fine slate gravel. Poor-looking material. Bottoms on sloughed material.</p>
12	1A	1972	0.5-10	0-0.5	Yes	--	100	92	75	6	2	---	Sand	<p>Owner: Theodore H. Cowee (formerly William Lomberg)</p> <p>Area is an inactive pit west of, and above Town Highway No. 2 and south of pit at Map Identification No. 11. No permission to sample with a backhoe was obtained. Test #1A was on north face of the small overgrown pit. Log of test: 0-0.5', sod; 0.5'-6', pebbly sand; 6'-10', sand.</p>

SANDGATE GRANULAR DATA SHEET NO. 13

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
														Bottoms in sloughed material. The pebbles are mostly phyllitic and tabular.
13	1A	1972	1-5, 7.5-13.5	0-1	No	100	87	64	47	25	17	23.3%	----	Owner: Charles D. Bentley, Jr. Area is field east of access road to pits at Map Identification No. 14 and south of Town Highway No. 17. Test #1A was near tree-line, 170' east of access road. Log of test: 0-1', sod; 1'-5', brown gravel; 5'-7.5', sand; 7.5'-13.5', gray gravel. Gravels were combined for Test #1A; and the sand for Test #1B
	1B	1972	5-7.5	0-1	No	100	100	100	95	71	50	----	--	Log of Test #1B: 0-1', sod; 5'-7.5', sand.
	2	1972	1-5	0-1	No	100	86	67	55	11	9	20.1%	Gravel	Test #2 was in the southwest corner of field, 330' S10°W of Test #1A, and 40' N50°E of field corner. Log of test: 0-1', sod; 1'-5', medium to coarse gravel; 5'-8', boulder layer; 8'-13', silt with stones.
	3	1972	0.5-5	0-0.5	No	95	95	80	58	4	3	23.1%	Gravel	Test #3 was in the northeast corner of field, 315' N40°E of Test #2. Log of test: 0-0.5', sod; 0.5'-5', fine gray gravel over gray coarse sand; 5'-13.5', silt with a water seep at 13.5'.
14	1	1972	13-40	0-3.5	Yes	91	90	72	51	9	6	20.0%	Gravel	Owner: Charles D. Bentley, Jr. Area is a wooded, lobate, kame terrace with three pits. Only the north pit is active (8/22/72); the east and south pits are inactive. The area is 0.25 mile south of Town Highway No. 17, and 0.13 mile east

SANDGATE GRANULAR DATA SHEET NO. 14

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	¾"	#4	#100	#200			
														of State Aid Highway No. 1. Test #1 was a hand shovel sample of the nearly vertical, 42-foot east face of north pit. Log of test: 0-3.5', silt and stones; 3.5'-13', not accessible; 13'-40', fine slate gravel with a few sand seams. Some water was noted on floor.
	2A	1972	0-12	Strip-ped	Yes	86	82	62	43	11	9	18.8%	Gran. Borrow (Grav.)	Test #2A was a hand shovel sample of the 17-foot northeast face of east pit. Log of test: 0-12', dirty silty slate gravel bottoms at 5' above floor in sloughed material.
	2B	1972	12-17	---	Yes	93	84	62	38	9	7	22.5%	Gravel	Log of Test #2B: 12'-17', well-nested slate gravel which sampled easily with the backhoe.
	3	1972	0.5-22	0-0.5	Yes	86	81	72	59	28	17	----	---	Test #3 was a hand shovel sample of the 22-foot southeast face of the south pit. Log of test: 0-0.5', sod; 0.5'-22', slaty coarse sand with some gravel.
	4A	1972	0.5-8.5	0-0.5	Yes	82	74	53	31	4	2	17.4%	Gravel	Test #4A was in floor at east end of north pit. Log of test: 0-0.5', overburden; 0.5'-8.5', fine slate gravel; bottoms on silty sand.
	4B	1972	8.5-12.5	---	Yes	100	85	85	84	44	25	----	----	Log of Test #4B: 8.5'-12.5', silty sand.
	5	1972	1-13	0-1	Yes	100	94	84	76	32	21	---	----	Test #5 was in floor near west end of north pit, 180' west of Test #4, and 90' N50°E of junction in pit access road. Log of test: 0-1'; overburden; 1'-9', sand; 9'-13', silty sand with silt seams.

SANDGATE GRANULAR DATA SHEET NO. 15

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	6	1972	0.5-11.5	0-0.5	Yes	95	83	54	40	6	4	20.5%	Gravel	Test #6 was in floor of south pit. Beds dip about 30° to S65°E. Log of test: 0-0.5', overburden; 0.5'-11.5', fine slate gravel; 11.5'-13', sand (not included in sample).
	7	1972	0.5-13	0-0.5	Yes	89	76	61	44	5	4	22.9%	Gravel	Test #7 was in cleared area atop and west of west face of south pit. Log of test: 0-0.5', overburden; 0.5'-13', beds of pebbly sand and fine gravel; bottoms in same.
	8	1972	1-13	0-1	Yes	90	79	57	41	2	1	23.2%	Gravel	Test #8 was in wooded extension 25' south of Test #3, and 175' S85°E of Test #7. Log of test: 0-1', silty sod; 1'-13', slightly dipping beds of fine gravel with minor pebbly sand beds.
	9	1972	1-10.5	0-1	No	100	93	73	52	3	1	---	Gravel (Grading Only)	Test #9 was near camp in woods; 170' S18°W of Test #8. Log of test: 0-1', sod; 1'-10.5', fine slate gravel. Bottoms at 10.5' on silt.
	10	1972	1.5-12.5	0-1.5	No	100	78	65	46	7	4	----	Gravel (Grading Only)	Test #10 was in woods, 115' S70°E of Test #8. Log of test: 0-1.5', sod and roots; 1.5'-12.5', pebbly sand with some fine gravel beds.
	11	1972	0.5-12	0-0.5	Yes	--	--	100	96	62	45	----	---	Test #11 was in the floor, 20' southwest of Test #2B. Log of test: 0-0.5', overburden; 0.5'-3', fine gravel; 3'-5', silt; 5'-7', pebbly sand; 7'-12', silty sand or silt.

SANDGATE GRANULAR DATA SHEET NO. 16

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Overburden (Ft)	Existing Pit	Sieve Analysis % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	¾"	#4	#100	#200			
	12	1972	1-12	0-1	No	83	83	65	50	32	27	---	--	Test #12 was in woods, 150' S75°E of Test #2. Log of test: 0-1', sod; 1'-12', silty, stony "till."
	13	1972	1.5-13	0-1.5	No	91	83	66	42	7	5	23.1%	Gravel	Test #13 was in woods, 125' due east of Test #2. Log of test: 0-1.5', sod and roots; 1.5'-13', fine gravel with gray silty coating.
	14	1972	1.5-10.5	0-1.5	No	83	76	58	41	10	8	22.0%	Gravel	Test # 14 was in woods, 165' S85°E of test #13, and near the top of the slope. Log of test: 0-1.5', sod and roots; 1.5'-10.5', poorly sorted, silt-coated tabular gravel. Note: The granular material of Tests #12, 13 and 14 seemed to run northeastward in a 50-foot wide band through the woods. The 50-foot band is measured southeastward from the top of the slope. This material was probably in the bed of a narrow stream.
15	1	1972	1-10	0-1	No	83	75	55	37	10	8	23.9%	Gravel	Owner: Charles D. Bentley, Jr. Area is a stony field, east across State Aid Highway No. 1 from Floyd Bentley's yellow house, 0.08 mile north of the Arlington Town Line. Test #1 was near northwest part of field, 125' S20°E of northwest fence corner. Log of test: 0-1', sod; 1'-10', fine to pebbly gravel.

SANDGATE 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 % Passing						Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						2"	1½"	½"	#4	#100	#200			
	2	1972	1-12.5	0-1	No	77	71	41	28	29	27	24.2%	----	Test #2 was in southwest part of field, 355' S15°W of Test #1, and 40' N70°W of apple tree. Log of test: 0-1', sod; 1'-12.5', gray tabular gravel with some silt seams. Bottoms in gravel.
	3	1972	1-3	0-1	No	N O T S A M P L E D								Test #3 was in southeast corner of field, 160' east of, and 12' below Test #2. Log of test: 0-1', sod; 1'-3', poorly sorted angular stones and silt; 3', bedrock.
	4	1972	1-4	Q-1	No	N O T S A M P L E D								Test #4 was in field, 120' N5°E of, and 10' above Test #3. Log of test: 0-1', sod; 1'-4', poorly sorted gravel (almost a till); bedrock at 4'.
	5	1972	1-9	0-1	No	87	76	62	45	10	7	25.8%	Gran. Borrow (Grav.)	Test #5 was in field 135' S15°E of Test #1. Log of test: 0-1', sod; 1'-9', gravel, 9', water; 9'-12', water and gravel.
	6	1972	----	----	No	N O T S A M P L E D								Test #6 was dug in northeast corner of field, 280' S80°E of Test #1. Bedrock was encountered at 1.5'.

TABLE I
Supplement

SANDGATE PROPERTY OWNERS - GRANULAR

Map Ident. No.

Bentley, Charles D., Jr.

13, 14, 15

Cowee, Theodore H.

11, 12

Laustra, Leo

9

Lincoln, Stanley and Douglas

3, 4, 5

Lomberg, Mrs. William

7

Poulin, John and Yanzo, John

6

Smith, Millard

1, 2

Stroffoleno, Mrs. Carol

8, 10

SANDGATE ROCK DATA SHEET NO. 1

Ident. No.	Field Test No.	Year Field Tested	Rock Type	Existing Quarry	Method of Sampling	Abrasion AASHO T-3	Results
1	1	1972	Phyllitic Quartzite	No	Chip	18.0%	Owner: Henry Hallenbeck. Area is outcrop southeast of Town Highway No. 2. The access is southwest of junction of Town Highway No. 2 and Town Highway No. 8. The best location for a quarry would be on the southeast slope of the hillside. Test #1: 0-75', random chip sample from southeast to northwest (uphill). Rock is phyllitic quartzite of the Brezee Formation. This part of sample failed on the AASHO T-3 but passed the AASHO T-96 with 29.9%
	22	1972	Phyllitic Quartzite	No	Chip	11.8%	Test #2 was offset 50 feet southwest of Test #1 but was continued in the same direction as Test #1. Test #2: 75'-150': random chip sample uphill and southwest of Test #1; Test #2 goes to top of slope. The rock is a phyllitic quartzite of the Brezee Formation. Sample failed on the AASHO T-3 but passed the AASHO T-96 with 25.2%.
2	11	1972	Phyllitic Quartzite	No	Chip	6.8%	Owner: Harry Petit (formerly Wilcox Lumber). Area is broken ledges in mixed forest south of Terry Brook. Access would need two bridges to be built over brooks. Test #1 was taken due south from foot of ledges Test #1: 0-75', random chip sample from phyllitic quartzite of the Brezee Formation. Test #1 passed AASHO T-3 and it also passed the AASHO T-96 with a wear of 20.0%.
	2	1972	Phyllitic Quartzite	No	Chip	---	Test #2 was due south from Test #1. Test #2: 75'-150', random chip sample from phyllitic quartzite of the Brezee Formation. Test #2 passed the AASHO T-96 with a wear of 24.7%. The best location for a quarry would be at the foot of broken ledges south of Terry Brook. This would

TABLE II
Supplement

SANDGATE PROPERTY OWNERS - ROCK

Map Ident. No.

Hallenbeck, Henry

1

Petit, Harry

2