SURVEY OF HIGHWAY CONSTRUCTION MATERIALS

IN THE TOWN OF NEWPORT, ORLEANS 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

Montpelier, Vermont

January, 1970

TABLE OF CONTENTS

Acknowledgments

The work of this Project was greatly implemented by the cooperation and assistance of many groups and individuals. The following were particularly helpful in carrying out the Project's objectives:

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

2. Professor D.P. Stewart of Miami University, Oxford, Ohio,

3. Professor C.G. Doll, Vermont State Geologist, University of Vermont, Burlington, Vermont,

4. United States Department of Commerce, Bureau of Public Roads.

History

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

on material sources available beforehand. Prior knowledge of locations of suitable material is an important factor in planning future highways.

The sources of construction materials are located by this Project through ground reconnaissance, study of maps and aerial photographs, and geological and physiographic interpretation. Maps, data sheets, and work sheets for reporting the findings of the Project were designed with their intended use in mind. These maps and data sheets were devised to furnish information of particular use to the contractor or construction man. For maximum benefit, the maps, data sheets, and this report should be studied simultaneously.

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

1956. Further information was obtained from the Soil Survey (Reconnaissance) of Vermont conducted by the Bureau of Chemistry and Soils of the United States Department of Agriculture, and from Vermont Geological Survey Bulletins, United States Geological Survey Quadrangles, aerial photographs, and other sources. On both maps the areas tested are represented by Identification Numbers. Several tests are usually conducted in each area represented by an Identification Number, the number of such tests being more or less arbitrarily determined either by the character of the material or by the topography.

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

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

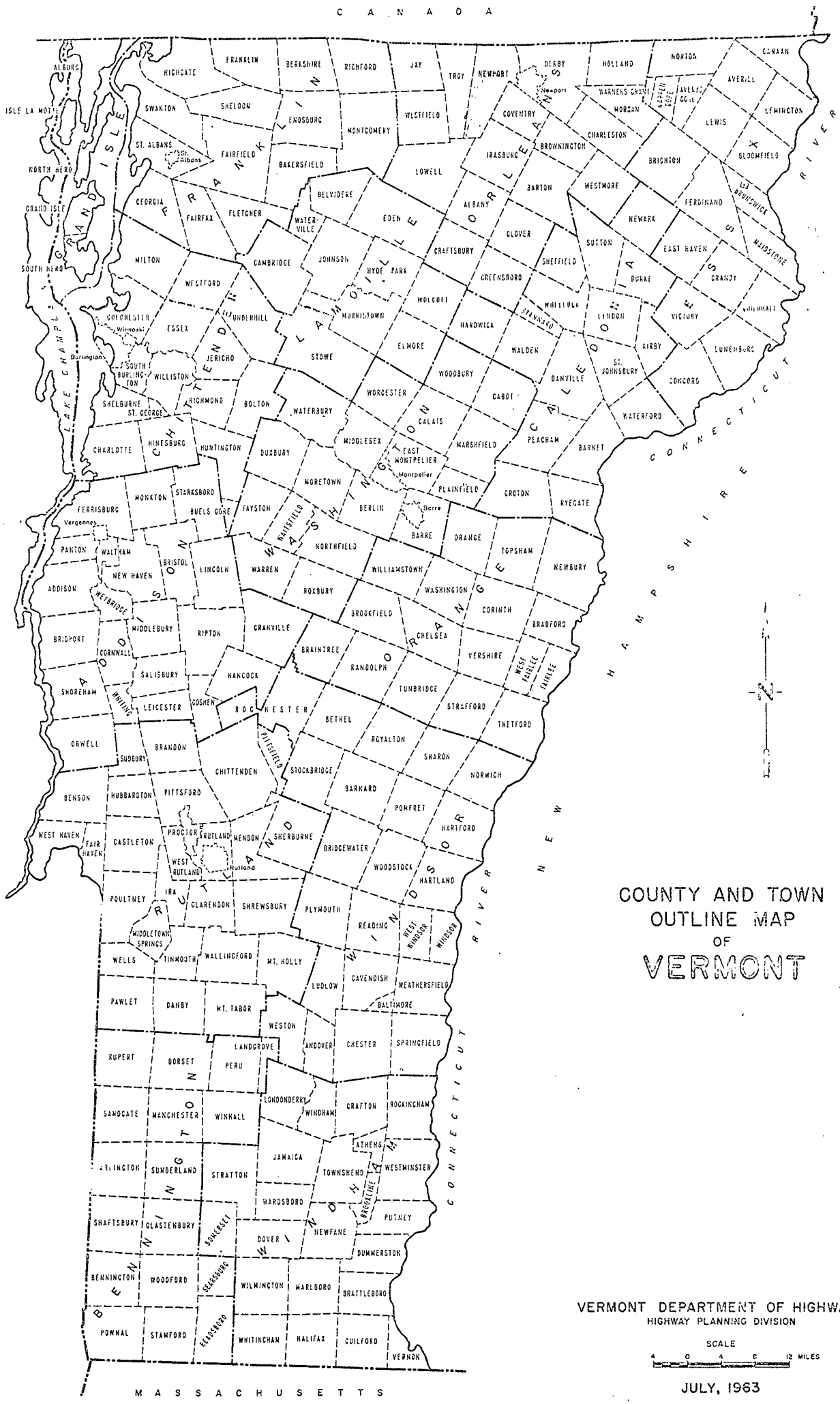
LOCATION

The town of Newport is located in northern Orleans Country at the north-central edge of the State next to the Canadian border. It is bounded on the north by Canada; on the east by Derby, Newport City, and Coventry; on the southeast by Irasburg;on the south by Lowell; and on the west by Troy.

Newport is entirely within the Vermont Piedmont Subdivision of the New England upland. According to the "Soil Survey of Vermont", by W. J. Latimer, the town lies in the Central Plateau Region, a broad plateau characterized by broad valleys and rounded hills. At the northwest corner of the township on the south slope of Bear Mountain there is a small area of rugged terrain.

A major portion of the drainage of the town is via Mud Creek and its tributaries northwestward into Canada where it joins the Missisquoi River. A minor portion at the southern end of the town flows westward in brooks that enter the Missisquoi near Westfield and Troy. A small area in the northeast part of the town drains into Lake Memphremagog, a large body of water that lies between Newport and Derby.

The highest elevation at more that 2160 feet is the summit of Black Hill near the south end of the township. The lowest elevation at less than 661 feet is at the point where Mud Creek crosses the town line near its northwest corner. The water level of Lake Memphremagog at 682 feet is slightly higher.



COUNTY AND TOWN OUTLINE MAP OF VERMONT

VERMONT DEPARTMENT OF HIGHWAYS
HIGHWAY PLANNING DIVISION

SCALE
4 0 4 8 12 MILES

JULY, 1963

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 obsolescense of a number of reports. In addition, the results of samples taken by other individuals are analyzed, and the location at which these samples were taken is mapped when possible. In other words, as complete a correlation as possible is made of all the information available concerning the geology of the area under consideration.

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

Discussion of Rock and Rock Sources

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 make up a major portion of the formations within the town of Newport. A minor portion consists of igneous rocks along its east-central boundary.

Occasionally, rocks belonging to the same formation and exhibiting similar outward characteristics (i.e., color, texture, etc.) may produce different abrasion results due 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.

Most bedrock is covered with a mantle of granular material and vegetation that limits sampling to sporadic outcrops within the linearly measured interval. This is particularly evident where undifferentiated granitic rocks as well as greenstones of the Coburn Hill member of the Missisquoi formation and the Stowe formation occur. Nevertheless, two areas were tested that are potential Sub-base of Crushed Rock Sources. Refer to their locations and descriptions in Table II.

A third location was also examined in detail but was not tested. It consisted of some wooded ledges south of a barn belonging to Elwyn Brown on Vermont Route 100. Rock is exposed for 200 feet as glacially smoothed outcrops with at least 25 feet of relief. Exposures examined appear to be of

rock in a transition zone between schistose quartzite of the Moretown member of the Missisquoi formation on the east and Stowe formation greenstone west of it. The exposures are too smooth and rounded to take extensive chip samples but the few that were taken were thin and fractured hackly to angular.

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

According to D. P. Stewart the remnants of glaciofluvial and lacustrine deposition within the twwn of Newport are small in areal extent. This survey located a few additional kamic features at Map Identification Numbers 1, 2, 3, 7, and 44.

The feature with the greatest potential for Sub-base of Gravel, Item 201, is a probable kame moraine that lies between Dunn Brook and the Coventry Town Line near Smith Pond. Contiguous areas with readily exploitable reserves of gravel are at Map Identification Numbers 26, 27, 29, 31 and 33. Other areas within the feature would also be good sources of gravel, namely at Map Identification Numbers 14 and 19, but the gravels are overlain by at least eight feet of finer materials. There are several potential sand sources of limited extent at Map Identification Numbers 15, 16, and 21 associated with the same feature.

Another kamic feature that would provide a limited source of gravel is located at the southwest slope of Allen Hill. Material areas there are at Map Identification Numbers 4,5, and 6.

The property with the largest estimated volume of sand is at Map Identification Number 41 in South Newport. 94,500 cubic yards of material are located at the south end of a kame terrace. There is also proven Item 202 material within the same feature of Map Identification Number 40 which is just north of the Portland Pipeline, and at the north end of the kame terrace at Map Identification Number 38.

D. P. Stewart interpreted as lake sediments an extensive area east of the Troy Town Line between Vermont Route 100 and Beetle Brook. Tests taken on the north end of his outlined feature in property at Map Identification Numbers 36

and 37 showed that the material is not suitable for Sub-base of Sand, Item 202.

Features interpreted by Stewart to be a beach gravel, a delta and a pebbly sand in the vicinity of Lake Memphremagog were not sampled because either they did not appear to have worthwhile field characteristics or property owners within their outlines would not permit testing.

SUMMARY OF ROCK FORMATIONS IN THE TOWN OF NEWPORT

Missisquoi formation

Coburn Hill volcanic member: Actinolite-epidote-chlorite-albite greenstone and hornblende-albite-epidote amphibolite; includes pillow lava.

Cram Hill member: Pale greenish-gray to black phyllite; grades locally into gray to black slate; felsic to mafic igneous rocks.

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

Umbrella Hill member: Quartz and slate pebble, phyllitic conglomerate with interbeds of slate and phyllite -- chiefly quartz-sericite-magnetite-chloritoid rock.

Northfield formation

Dark gray to black quartz-sericite slate or phyllite with fairly widely spaced interbeds a few inches thick of siltstone and silty crystalline limestone like that of the Waits River formation; calcareous slate north of the Lamoille River.

Stowe formation

Greenstone and Amphibolite: Epidote-albite-chlorite rocks contain actinolite and hornblende where more metamorphosed.

Carbonaceous schist and phyllite north of Lamoille River grades into:

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

Waits River formation

Eyers Cliff limestone member: Siliceous crystalline limestone containing thin beds of slate and phyllite north of the Lamoille River.

Undifferentiated granitic rocks

Fine- to coarse-grained granitoid rocks including granodiorite and quartz monzonite occurring as sills and irregular bodies.

GLOSSARY OF SELECTED GEOLOGIC TERMS

Beach - As used here the term applies to material of shoreline deposits which may consist of any grain size and gradation of sediment, but is usually well-sorted sand and pebbles.

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

Dike - A sheet-like body of igneous rock that fills a fissure in older rocks which it entered while in molten condition.

Dip - The angle which a stratum, sheet, vein, fissure, or similar geological feature makes with a horizontal plane, as measured in a plane normal to the strike.

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

Friable - Easily crumbled, pulverized, or reduced to powder.

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

Granitic - Characteristic of, composed of, pertaining to, or like granite.

Granodiorite - A type of deep-seated, crystalline igneous rock composed of plagioclase, a smaller amount of orthoclase or other alkalic feldspar, quartz, and usually one or more of the dark minerals, biotite, hornblende, or pyroxene.

Greenstone - A field name for rocks that have been so metamorphosed or otherwise so altered that they assume 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 ice. They assume the varied topographic forms expressed by eskers, kames, and kame terraces.

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

Intrusive - Igneous rock which has cooled before reaching the earth's surface. Contains small to large visible grains as opposed to Extrusive that solidifies at the surface and contains small unrecognizable grains.

Joint - A fractured 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 moraine - An accumulation of material deposited directly from the frontal portion of the glacial ice and partly sorted by water action. Deposits may take the form of coalescent knolls, hummocks, ridges, etc.

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

Lacustrine - Pertaining to lakes.

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

Outcrop - A part of a body of rock that appears, bare and exposed, at the surface of the ground. In a more general sense the term applies also to areas where the rock formation occurs next beneath the soil, even though it is not exposed.

Partings - Thin depositional layers separating thick deposits, as shale in a coal seam.

Phyllite - A fine-grained, foliated metamorphic rock intermediate between the mica schists and slates into which it might 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.

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

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

Sediments - All kinds of deposits from the waters of streams, lakes, or seas, and in a more general sense of deposits of wind and ice.

Sill - A tabular body of igneous rock which has been injected while molten between layers or foliations of rock. Sills have relatively great lateral extent as contrasted to thickness.

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

Strike - The direction of a line formed by the intersection of a stratum with a horizontal plane.

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

Trap - A term originally applied to igneous rocks that are neither coarsely crystalline nor cellular. It is still used in a general and non-committal sense by engineers and geologists for dark-colored, heavy, igneous rocks composed essentially of ferromagnesian minerals, basic feldspars, and little or no quartz.

BIBLIOGRPAHY

A survey of the glacial geology of Vermont being conducted by D. P. Stewart, the partial results of which are published in Vermont Geological Survey Bulletin No. 19; 1961.

Soil Survey (Reconnaissance) of Vermont, W. J. Latimer; 1930; Bureau of Chemistry and Soils, United States Department of Agriculture.

Soil Exploration and Mapping; 1950; Highway Research Board, Bulletin 28.

Survey of Highway Aggregate Materials in West Vigginia; December, 1959; Engineering Station, West Virginia University, Morgantown, West Virginia.

Materials Inventory, Bangor Quadrangle, South Half; September, 1959; University of Maine.

Glacial Geology and the Pleistocene Epoch, R. F. Flint; 1947;, John Wiley and Sons, Inc.

A Handbook of Rocks, J. F. Kemp; June, 1946;, D. Van Nostrand Company, Inc.

Rock and Rock Minerals, L. V. Pirsson; June, 1949; John Wiley and Sons, Inc.

Glossary of Selected Geologic Terms, W. L. Stokes and D. J. Varnes; 1955; Colorado Scientific Proceedings, Vol. 16.

Bedrock Geology and Asbestos Deposits of the Upper Missisquoi Valley and Vicinity, Vermont; Cady, W. M., Albee, A.L., and Chidester, A. H., 1963; U. S. Geological Survey Bulletin 1122-B

Geology of the Memphremagog Quadrangle and the Southeastern Portion of the Irasburg Quadrangle, Vermont; C. G. Doll; 1951; Vermont Geological Survey Bulletin No. 3

Centennial Geologic Map of Vermont; C. G. Doll; 1961

Irasburg Quadrangle, Vermont; Geological Survey, United States Department of the Interior; Revised 1953.

Memphremagog Quadrangle, Vermont; Geological Survey, United States Department of the Interior; Revised 1953.

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 (3½) 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 Item 205-A	4"	100
		No. 4	25-50
	Fine-Graded Item 205-B	1½"	95-100
		No. 4	30-60

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

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

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

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

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

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 1

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Samples (Ft)	Over burden (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				
1	1	1969	1-9	0-1	Yes	80.7	49.0	18.9	14.0	8.5	4½	-----	-----	Owners: Roger Beadle and Albert Darby Area consists of two shallow pits in a large pasture southeast of Bear Mountain north of Town Highway No.7. Gravelly material encountered is somewhat tabular. Water occurred in the floor of the larger, north pit. Test #1 was a hand sample of the west face of the north pit. Material is a very stony gravel with 90% tabular stones less than 3" in size and very little sand. Material is not acceptable for Item 105 because of high color.
	2	1969	1-8.5	0-1	Yes	83.0	62.0	34.4	5.0	2.3	3	18.7%	Gravel	Test #2 was on face at southeast corner of 10-foot high north pit. About 6.5' of gravel, brown in color and with few cobbles, overlies a gray gravel for at least 2'. A partially cemented layer separates the two beds.

TABLE I

NEWPORT 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
						1½"	5/8"	#4	#100	#270				
	3	1969	1-6.5	0-1	Yes	69.9	45.2	32.6	9.0	5.3	4	14.0%	-----	Some tabular stones were in Test #2. Material is acceptable for Item 201. Test #3 was dug on the northwest end of grown-in south pit 165' southeast of Test #2. Face is about 9' high. Pit extension is possible to the northwest but appears limited to the north and southwest. Material is a very stony gravel. Top 1'-3' is silty with no sand. Material is not acceptable for Item 105 because of high color. Material in this area is apparently ice-contact deposition. Extension possibilities are too limited to warrent backhoe testing.
2	1A	1969	1.5-6	0-1.5	Yes	82.7	68.6	49.7	8.0	4.0	1½	31.3%	Gran. Borrow (Grav.)	Owner: Williea Verdon Area is a 1,000 foot long terrace west of Town Highway No. 9 next to International Boundary. There are two small pits, one in the center and the other near the south end of the terrace. Test #1A was in the upper 10-foot high south face of the north pit. Material is: 0-1.5', sod and orange silt (not tested);

TABLE I

NEWPORT GRANULAR DATA SHEET. NO.3

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														1.5'-6', slate gravel which is acceptable for Item 105 but fails for Item 201 because of excessive wear.
	1B	1969	6-10		Yes	100	100	94.8	47.4	14.0 13.3*	1	------	-----	Test #1B was in lower south face of north pit below Test #1A. Material is: 6'-8', very fine sand 8'-10', pebbly sand. This material fails to meet requirements for Item 105 because an excess passes the #270 mesh sieve.
	2	1969	0.5-4.5	0-0.5	Yes	100	100	98.2	64.8	28.0 27.5*	1	------	-----	Test #2 was in floor of north pit. Material is: 0-0.5', sod and silt (not tested); 0.5'-4.5', very fine sand - silt with a lens of coarse sand at 1.5'. This material fails to meet requirements for Item 105 because an excess passes the #270 mesh sieve.
	3	1969	0.5-4	0-0.5	No	100	100	100	34.0	17.0*	1	-----	-----	Test #3 was on top of terrace at far south end. Material is: 0-0.5', sod; 0.5'-2.5', silt; 2.5'-4, wet sand, the 4-foot interval below the sod is material that fails to meet requirements for

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 4

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Samples (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														Item 105 because an excess passes the #270 mesh sieve. Below 4' the backhoe uncovered a foot of clay.
	4	1969	0.5-3.5	0-0.5	Yes	66.2	56.9	36.7	5.0	1.5	1	14.4%	Gravel	Test #4 was in floor of south pit. Material is: 0-0.5', silt (not tested); 0.5'-3.5', clean cobbly gravel that is acceptable for Item 201; 3.5'-6', silt-clay.
	5	1969	1-6	0-1	Yes	100	94.4	80.7	4.0	2.0 1.6*	2	----	Sand	Test #5 was in west face of south pit. Material is: 0-1', sod; 1'-6', pebbly coarse sand that is acceptable for Item 202; 6'-8', silt-clay. Material in this area is largely fine sand and silt with lenses of coarse sand and gravel. Probably it is ice-contact deposition.
3	1	1969	1.5-9	0-1.5	No	100	84.1	59.4	13.7	10.0 5.9*	1½	----	Gran. Borrow (Grav)	Owner: Donald Farrar Area consists of a west-northwest trending ridge, eastern terminus of which is in woods west of Town Highway No. 9 opposite small pond. Test #1 was in trees at east end of ridge. Material is: 0-1.5', sod and silt (not tested); 1.5'-9', reddish-brown sand with a few stones toward the top that is acceptable for Item 105 but fails to meet requirements for Item 201

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 5

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
						1½"	5/8"	#4	#100	#270				
														because of an excess passing the #270 mesh sieve. A gravel layer was encountered at 6.5' and water at 9'.
	2	1969	1-8.5	0-1	No	85.5	71.2	49.2	5.0	2.0	1½	15.8%	Gravel	Test #2 was located about 300' northwest of Test #1 in woodland clearing. Material is: 0-1', sod and silt (not tested); 1'—8.5', gravel that is acceptable for Item 201; 8.5'-10', clay.
	3	1969	1-7.5	0-1	No	97.9	95.0	77.0	6.2	3.0 2.3*	1½	-----	Sand	Test #3 was in same clearing as, and 90' west of Test #2. Material is: 0-1', sod and silt (not tested); 1'-2.5', sand with stones; 2.5'-7.5', very fine gravel; bottom, boulder clay. Interval from 1' to 7.5' is material acceptable for Item 202. More detailed testing would be necessary to delimit transitions between sand and gravel in this area. It is probably ice-contact deposition.
4	1A	1969	5-20	0-5	Yes	76.1	56.9	36.2	12.0	5.0	1	12.4%	Gravel	Owner: Mrs. Violet Chaput Area consists of an elongate gravel pit southeast of owner's farmhouse

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 6

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														on Town Highway No. 12. Pit face on east shows northward dipping cobble gravels with interbedded pebbly sand and silt seams. This face was 40' high at point where tests #1A and #1B were taken. Material from top of face to 5' level consists of sod underlain by 4' of gravel that was not accessible for sampling. Test #1A material from 5' to 20' consists of cobbly gravel that is acceptable for Item 201.
	1B	1969	20-35	-----	Yes	82.7	64.4	48.7	6.0	2.0	1	12.0%	Gravel	Test #1B material from 20' to 35' consists of gravel that is acceptable for Item 201.
	2A	1969	1-5	0-1	Yes	75.2	47.5	5.8	16.0	7.0	1	8.9%	Gran. Borrow (Grav.)	Test #2A was located in floor about 145' southwest of Test #1B. Material is: 0-1', silt and stones (not tested); 1'-2', clean coarse gravel; 2'-5', dirty gravel. The combined gravel intervals barely failed to be acceptable for Item 201 because of slight excesses passing the #100 and #270 mesh sieves although it is acceptable for Item 105.

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 7

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/""	#4	#100	#270				
	2B	1969	5-9.5	----	Yes	96.8	81.4	64.3	4.0	1.0	1	------	Gran. Borrow (Grav.)	Test #2B was beneath Test #2A in floor. Material is: 5'-9.5', fine gravel and sand that is acceptable for Item 105 but had insufficient stone to be classified as Item 201 and too much stone to be classified as Item 202.
	3A	1969	2-7	0-2	No	100	97.3	92.4	46.2	18.0 16.6*	1	------	-----	Test #3A was in possible extension at point 270' east of pit and 70' north of fence. Material is: 0-2', sod and silt (not tested); 2'-4', pebbles and silt; 4'-7', very fine sand which intervals failed to be acceptable for Item 105 because of an excess passing the #270 mesh sieve.
	3B	1969	7-11.5	___	No	100	95.4	91.8	1.8	1.0 1.9*	1	------	Sand	Test #3B material beneath Test #3A consists of 4.5' of clean gray sand that is acceptable for Item 202.
	4	1969	1.5-9	0-1.5	No	95.1	85.9	64.7	3.0	2.0	1½	------	Gran-Borrow (Grav.)	Test #4 was in possible extension at point 375' east of pit and 350' northeast of Test #3A. Material is: 0-1.5, sod and silt (not tested); 1.5-9', fine gravelly sand that is acceptable for Item 105 but

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 8

Map Ident.	Field Test	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														contains insufficient stone to be classified Item 201; 9'-9.5', layered clay.
	5	1969	1-9	0-1	No	--	--	89.7	62.3	---	----	-----	----	Test #5 was located at point in field 525' north of Test #4 and 155' south of fence. Material is: 0-1', sod; 1'-9', silt-clay with occasional stones that is classified as an AASHO A-4 soiltype (silt).
	6	1969	1-6	0-1	No	N O T S A M P L E D								Test # 6 was located 265' N.25° W. of Test #4. Material is similar to but stonier than that of Test #5.
	7	1969	1-9	0-1	No	--	--	94.0	61.6	---	---	----	----	Test #7 was located at point in field north of pit and 165' S.80° W. of Test #6. Material is 0-1', sod; 1'-9', silt-clay with stones that is classified as an AASHO A-4 soiltype (sandy silt).
	8	1969	2-13	0-2	Yes	100	100	97.7	18.6	6.5 6.4*	1	-----	Gran. Borrow (Sand)	Test #8 was in west face of elongate pit about 110' west of Test #1A. Material in face below 2' of sod and silt consists of silty and pebbly sand layers to the floor at 13'. Material is acceptable for Item 105 but is rejected for Item 202 because of excesses passing the #100 and #270 mesh sieves.

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 9

Map Ident. No.&	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														Possible extension westward towards Town Highway No. 12 from this face would be questionable because of vegetable garden belonging to owner. There is a good possibility that additional material occurs southeast of the pit toward Map Ident. No. 5.
5	1	1969	1-10	0-1	No	100	100	97.9	11.7	3.0 2.9*	1	-------	Sand	Owner: Mrs Violet Chaput. This area consists of a large field south of Tests #3A and #3B in Map Identification No. 4 and east of small pit in Map Identification No. 6. Test #1 was on hillside opposite Test #3A in Map Identification No. 4 at point 95' south of fence. Material is: 0-1', sod; 1'-3.5', gravelly sand; 3.5'-5', fine sand; 5'-10', medium gray sand with pebbles. Sand intervals combined meet the requirements for Item 202.
	2A	1969	1-6.5	0-1	No	---	---	87.0	55.0	---	---	---	---	Test #2A was on a second hillside higher than and east of Test #1. Material is: 0-1', sod; 1'-6.5', brown silt that is classified as an AASHO A-4 soil type (sandy silt).

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 10

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
	2B	1969	6.5-9.5	----	No	100	100	46.2	35.0	19.0	1	----	----	Test #2B was beneath Test #2A. Material is: 6.5'-9.5', silty sand with cobbles that is unacceptable for Item 105 because of an excess passing the #270 mesh sieve.
6	1	1969	5-16	0-5	Yes	81.5	69.7	53.1	8.0	3.0	1	13.8%	Gravel	Owner: Mrs. Violet Chaput. Area is a small pit east of Town Highway No. 12 at point 0.45 mile south of its intersection with Town Highway No. 9. Test #1 was in north face of pit. Material is: 0-1', sod; 1'-5', silt and stones (not tested); 5'-8', pebbly sand; 8'-16', gravel with sand layers. Interval from 5' to 16' is acceptable for Item 201.
	2A	1969	2-6	0-2	Yes	100	95.9	63.2	3.8	3.0 1.9*	1½	---	Gran. Borrow (Sand)	Test #2A was in floor about 20' south of Test #1. Material is: 0-2', silt and stones (not tested); 2'-6', pebbly coarse sand that is acceptable for Item 105 but fails to meet requirements for Item 202 because of an excess being retained by the #4 screen.
	2B	1969	6-11	---	Yes	100	100	98.9	67.2	28.0 27.7*	1	---	----	Test 2B was beneath test #2A. Material is: 6'-11', silty sand that is unacceptable

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 11

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														for Item 105 because of an excess passing the #270 mesh sieve.
7	1	1969	1-10	0-1	No	100	100	96.9	66.0	31.0	1	------	-----	Owner: Leo Chaput Area is a field north of and across fence from pit in Map Identification No. 8. Test #1 was at high point in field 295' N.55° W. of gate in fence. Material is 0-1', sod; 1'-10', silt-clay with rocks and a trace of gray sand that is unacceptable for Item 105 because of an excess passing the #270 mesh sieve.
8	1	1969	1-18	0-1	Yes	64.1	53.0	33.3	10.0	5.0	1	18.5%	Gravel	Owner: Leo Chaput. Area is a pit in pasture west of Town Highway No. 12. Test #1 was in east face of pit. Material is: 0-1', sod; 1'-18', dirty cobbly gravel that is acceptable for Item 201.
	2A	1969	1-5.5	0-1	Yes	100	100	84.1	3.4	2.5 2.1*	1	---	Sand	Test #2A was in floor about 50' west of Test #1. Material is: 0-1', coarse dirty gravel (not tested); 1'-5.5', stony fine sand that is acceptable for Item 202.
	2B	1969	5.5-8.5	---	Yes	100	96.3	93.2	14.0	3.0 2.8*	1	---	Sand	Test #2B was beneath Test #2A. Material is 5.5'-8.5', wet coarse sand that is

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 12

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														acceptable for Item 202. Water was encountered at 5.5'.
	3	1969	4.5-10.5	0-4.5	Yes	90.9	77.0	63.5	11.0	4.8	1	15.2%	Gran. Borrow (Grav.)	Test #3 was on hilltop 67' S.35° E. of pit. Material is: 0-1', sod; 1'-4.5', silt to sand with cobbles and a few large boulders (not tested); 4.5' - 10.5', fine gravel that is acceptable for Item 105 but fails to meet requirements for Item 201 because of insufficient stone content. This pit apparently truncates a kame that has a large thickness of Item 201. material of limited areal extent.
9	1	1969	4-19	0-4	No	77.0	65.2	43.1	10.0	7.0	1	20.2%	Gran Borrow (Grav.)	Owner: Leo Chaput. Area is an open field west of the Leo Chaput farm on Town Highway No. 12. Test #1 was located on flattened hilltop west of farmhouse and 500' S. 20° W. of pit at Map Indentification No. 8. Material is: 0-1.5', sod; 1.5' - 4', silt and stones (not tested); 4' - 10', gravel that is acceptable for Item 105 but fails to meet requirements for Item 201

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 13

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														requirements for Item 201 because of an excess passing the #270 mesh sieve.
	2	1969	4-7	0-4	No	82.4	76.9	71.4	13.0	5.0 3.1*	1	----	Gran. Borrow (Sand)	Test #2 was located on ridge crest 325' S. 20° W. of Test #1. Material is: 0-1', sod; 1-4', silt and stones (not tested); 4' - 5', fine gravel; 5' - 7', sand with clay. Interval from 4' to 7' meets requirements for Item 105 but is unacceptable for Item 202 because of excess stones retained on the 1½" and 5/8" screens.
10	1	1969	2-6	0-2	No	100	98.0	97.6	45.9	12.0 11.7*	1½	---	---	Owner: Edward Darby Area is a high terrace east-northeast of owner's barn on Vermont Route 105. Test #1 was south of fence in pasture about 250'; N. 70° E. of old springhouse. Material is: 0-0.5', sod; 0.5'-2', silt with clay (not tested); 2' - 6', sand with a little stratified clay at the top that was unacceptable for Item 105; 6' - 9.5', silt-clay.
	2	1969	1.5-2.5	0-1.5	No	100	97.3	76.8	1.5	0.5 0.4*	3½	---	Sand	Test #2 was at northwest end of terrace in hayfield near property line fence.

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 14

Map Ident. No.	Field Test No.9	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														Material is: 0-0.5', sod; 0.5' - 1.5', silt, 1.5' - 2.5', fine gravel that is acceptable for Item 202. The thin veneer of sand good for Item 202 is not worth exploiting.
11	1	1969	0.5-4	0-0.5	No	91.0	73.8	52.4	3.0	1.0	2½	14.9%	Gravel	Owner: Myrl Hilliker. Area is the northwest end of a pasture about ½ mile from Vermont Route 105 via field road from owner's barn. This area was suggested by owner who has previously used it for a source of fill. Test #1 was at the edge of pasture northwest of some large elms. Material is: 0-0.5', sod; 0.5' - 4', gravel that is acceptable for Item 201; bottom cobbles. This area might be a future source of Sub-base of Crushed Gravel, Item 205, but additional testing would be necessary.
12	1A	1969	0.5-6	0-0.5	Yes	100	100	100	11.2	2.0 1.5*	1	---	Sand	Owner: Myrl Hilliker, Area comprises two small pits in field about 400' S. 85° W. of owner's barn by field road.

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 15

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														Test #1A was in upper face of farther pit. Material is: 0-0.5', sod; 0.5'-6', stony coarse sand that is acceptable for Item 202.
	1B	1969	10-16	----	Yes	100	100	100	82.0	26.0*	1	----	----	Test #1B was in lower face of farther pit. Below Test #1A. Material is 10'-16', very fine sand that is unacceptable for Item 105. This area would require additional testing to delimit extent of de position.
13	1	1969	2-11	0-2	Yes	88.9	75.3	54.9	5.0	1.0	1	14.9%	Gravel	Owner: Myrl Hilliker, Area is a large field with tiny pit S. 67° W. of Hilliker farm. Pit can be reached by field road either from owner's barn (0.35 mile) or from Vermont Route 100 opposite Emilien Tangua y farm (0.45 mile). Test #1 was in tiny pit from top of face to 4' below floor level. Material is: 0-0.5', sod; 0.5'-2', clay (not tested); 2'-11', fine- to medium -gravel with sand lenses that is acceptable for Item 201.

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 16

Map Ident. No.	Field Test. No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	2	1969	0.5-5.5	0-0.5	No	--	--	95.7	87.4	----	----	-----	----	Test #2 was in road at edge of field at point 0.13 mile N. 10° E. of Test #1. Material is: 0-0.5', sod; 0.5' - 5.5', sandy silt that is classified an AASHO A-4 soil type.
	3	1969	0.5-4	0-0.5	No	N O T S A M P L E D								Test #3 was at edge of field 0.12 mile S. 50° E. of Test #1. Material is: 0-0.5', sod; 0.5'-4', sandy silt with a boulder (not tested). Possible extension of this pit is minimal. Area is not recommended as a possible source without further testing.
14	1	1969	1-10	0-1	Yes	77.7	52.5	29.8	8.0	2.0	1½	7.7%	Gravel	Owner: Myrl Hilliker, Area is a double pit S. 75° W. of Hilliker farm across Mud Creek. Access is 0.65 mile via field road from farm. Test #1 was in floor of larger, south pit. Material is: 0-1', silt and stones (not tested); 1'-10', gravel that is acceptable for Item 201.

TABLE I

NEWPORT 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					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	2A	1969	3-8	0-3	Yes	100	100	100	34.0	10.0*	1	----	Gran Borrow (Sand)	Test #2A was in upper southwest face of smaller, north pit. Material is:: 0-1', sod; 1'-3', sand and pebbles (not tested); 3'-8', very fine sand that is acceptable for Item 105 but fails to meet the requirements for Item 202 because of accesses passing the #100 and #270 mesh sieves.
	2B	1969	8-21	---	Yes	84.8	76.0	54.9	8.0	2.0	1	9.5%	Gravel	Test #2B was below Test #2A in lower southwest face of smaller north pit. Material is: 8'-21', fine gravel that coarsens toward bottom of face and is acceptable for Item 201. Direction of extension of this area would be southwards towards pit owned by Lucien. (Map Ident. No. 16)
15	1	1969	2.5-32.5	0-2.5	Yes	100	100	99.4	9.9	1.5 1.4*	1	---	Sand	Owner: Myrl Hilliker. Area is the northeastern exposure of a N. 30° W. trending ridge that has been largely exploited in the past. Ridge is densely wooded and slopes steeply to Mud Creek on its southwest side. A sequence of ponds

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 18

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
						1½"	5/8"	#4	#100	#270				
														occurs in pit floors toward Map Identification Nos. 18 and 19 at the southeast. Test #1 was in northeast face of ridge. Material is: 0-2.5', sod and silt (not tested); 2.5'-32.5', fine sand that is acceptable for Item 202.
	2	1969	0-10	----	Yes	100	100	98.4	7.9	1.5*	1½	----	Sand	Test #2 was in floor near Test #1. Water was encountered at 7.5'. Material is: 0-10', sand that is acceptable for Item 202.
	3	1969	2-5	0-2	Yes	63.8	51.2	32.4	6.0	2.5	1	13.4%	Gravel	Test #3 was in floor of lower level northwest of and across minor ridge from Test #2. Water was encountered at 2'. Material is: 0-2', silty sand (not tested); 2'-5', coarse gravel that is acceptable for Item 201. This ridge is possibly an esker.
16	1A	1969	1-9.5	0-1	Yes	100	98.7	85.6	2.6	0.5 0.4*	1½	----	Sand	Owner: Conrad Lucien Area is a 38 foot high pit south of pits at Map Identification No. 15 and 0.35 mile via field road from owner's farm to west on Town Highway No. 16. Test #1A was in upper west face at south end.

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 19

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
						1½"	5/8"	#4	#100	#270				
	1B	1969	9.5-15	-----	Yes	84.3	70.0	43.5	3.0	1.0	1	12.3%	Gravel	Material is: 0-1', sod & silt; 1'-9.5', fine-coarse sand that is acceptable for Item 202. Test #1B was in middle west face at south end below Test #1A. Material is: 9.5'-15', clean gravel that is acceptable for Item 201.
	1C	1969	15-26	----	Yes	100	100	95.3	17.2	2.0 1.9*	1	----	Sand	Test #1C was in lower west face at south end below Test #1B. Material is: 15' - 26', fine sand with cross-bedding that is acceptable for Item 202.
	2	1969	0.5-3.5	0-0.5	Yes	100	100	98.6	26.6	6.0 5.9*	1	----	Gran. Borrow (Sand)	Test #2 was in floor back from Test #1C. Material is: 0-0.5' (not in place); 0.5' - 3.5', very fine to fine sand, that is acceptable for Item 105 but fails to meet the requirements for Item 202 because of excesses passing the #100 and #270 mesh sieves; 3.5' - 5.5', silt to clay dipping east; bottom, silt-clay and stones. This area has little or no extension northwards. Material on top of the slope was inaccessible to the back-

*Percentage of Total Sample

TABLE I NEWPORT GRANULAR DATA SHEET NO. 20

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
						1½"	5/8"	#4	#100	#270				
														hoe. It belongs to Myrl Hilliker, for which See Map Identification No. 14.
17	1	1969	1-5	0-1	No	N	O	T	S	A	M	P	L	E D Owner: Emilien Tanguay. Area is the northwest part of an open field west of Vermont Route 100. It can be reached by field road opposite owner's farm, a distance of 0.32 mile. Test #1 was located near the woods just south of property line fence. Material is 0-1', sod; 1'-5', boulder clay that was not sampled; bottom clay.
18	1	1969	2-10	0-2	Yes	100	100	100	20.0	5.0	1	---	Gran. Borrow (Sand)	Owner: Clarence Hill Area is a high sand bank near north end of property east of Dunn Brook. This area was formerly the site of a gravel crushing operation. Test #1 was near clump of trees immediately west of property line bounding Map Identification No. 20. Material is: 0-1', sod; 1'-2', orange silt (not tested); 2'-10', fine sand to silty sand that is acceptable for Item 105 but unacceptable for Item 202 because of a

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 21

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 VHS Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														slight excess passing the #100 mesh sieve
	2	1969	1.5-10	0-1.5	Yes	100	100	100	19.0	15.0	1	----	-----	Test #2 was located 150' S. 40° W. of Test #1 and represents possible extension. Material is: 0-1.5', sod and silt; 1.5'-10', very fine sand that is unacceptable for Item 105 because of an excess that passes the #270 mesh sieve.
	3	1969	1-5	0-1	Yes	96.5	93.0	82.5	22.0	5.0	1	----	Gran. Borrow (Sand)	Test #3 was at foot of bank about 75' W of Test #1. Material is: 0-1', not in place; 1'-5', stony silt that is acceptable for Item 105.
	4	1969	0.5-10	0-0.5	Yes	100	100	97.9	8.8	1.5*	1	----	Sand	Test #4 was in floor of N. 30° W. trending pit and about 175' north of Test #1. Material is: 0-0.5', sod & silt; 0.5'-10', wet sand (water was encountered) at 7.5') that is acceptable for Item 202.
19	1A	1969	3-14.5	0-3	Yes	100	100	97.6	9.8	2.5 2.4*	1	-----	Sand	Owner: Emilien Tangua y Area is the southeast end of a large pit complex west of Vermont Route 100 and east of Dunn Brook. Access is via field road opposite owner's farm on

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 22

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
						1½"	5/8"	#4	#100	#270				
														Vermont Route 100 (0.31 mile). Test #1A was in center of southwest face above highest floor. Material is: 0-3', sod & silt; 3'-14.5', fine- to medium- sand that is acceptable for Item 202; 14.5'-20.5', covered with displaced sod and silt that was inaccessible to the backhoe and unsafe to sample by hand.
	2	1969	1-8	0-1	Yes	75.8	64.7	45.7	15.0	8.0	3	11.9%	Gran. Borrow (Grav.)	Test #2 was in 10.5' face of next lower level. Material is questionably in place. This face shows: 0-1', brown silt (not tested); 1'-2', sand; 2'-8', fine clean gravel; 8'-11', cobbles. Interval from 1'-8' is acceptable for Item 105 but fails to meet requirements for Item 201 because of an excess passing the #270 mesh sieve.
	3	1969	0.5-10	0-0.5	Yes	76.3	61.9	40.7	3.0	2.0	1½	11.7%	Gravel	Test #3 was in floor of lower level. Material is: 0-0.5', sod & silt; 0.5'-10', cobbly gravel that coarsens toward bottom and that is acceptable for Item 201. Further development of this area would be westward toward Map Identification No. 18 for maximum of 300 feet.

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 23

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
20	1	1969	1-6	0-1	No	100	100	97.6	24.4	4.0 3.9*	1	----	Gran. Borrow (Sand)	Owner: Conrad Lucien. Area is sand bank near south end of property about 750' east of Town Highway #16 via field road. Test #1 was in face. Material is: 0-1', silt (not tested); 1'-6', alternating silty sand and clean sand layers that are acceptable for Item 105 but fail for Item 202 because of an excess passing the #100 mesh sieve. This sand bank is one of a number of similar features of limited thickness and areal extent.
21	1	1969	4-12	0-4	Yes	100	100	95.7	15.3	3.0 2.9*	1	----	Sand	Owner: Clarence Hill. Area Consists of a pit across field south of Map Identification No. 18. Access is via field roads from Vermont Route 100 opposite Emilien Tanguay Farm (0.57 mile). Test #1 was in east face of pit; Material is: 0-2', sod; 2'-4', silt (not tested); 4'-12', very fine to fine sand that is acceptable for Item 202.

*Percentage of Total Sample

TEST I

NEWPORT GRANULAR DATA SHEET NO. 24

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
						1½"	5/8"	#4	#100	#270				
	2	1969	2.5-5.5	0-2.5	Yes	100	100	100	55.0	9.0	1	------	Gran. Borrow (Sand)	Test #2 was in floor of pit. Material is: 0-2', sod and silt; 2'-2.5', coarse gravel (not tested); 2.5'-5.5', fine sand that is acceptable for Item 105 but fails to meet requirements for Item 202 because of excesses passing the #100 and #270 mesh sieves.
	3	1969	2-5.5	0-2	Yes	100	98.9	93.7	26.2	6.0 5.6*	1½	----	Gran. Borrow (Sand)	Test #3 was in possible extension 85' south of Test #1. Material is: 0-2', sod and orange silt; 2'-5.5', wet fine sand that is acceptable for Item 105 but fails to meet requirements for Item 202 because of excesses passing the #100 and #270 mesh sieves. Eastward extension of this area was not determined.
22	1	1969	0.5-10	0-0.5	Yes	82.0	73.7	61.2	2.0	1.0	2½	8.2%	Gran. Borrow (Grav)	Owner: Elwyn Brown. Area is a pit north of Dunn Brook just east of Town Highway #16. Test #1 was in face near east end. Material is: 0-0.5', sod and pebbly silt; 0.5'-1.5', fine gravel; 1.5'-2.5', cobbles; 2.5'-8', sand

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 25

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														with stones; 8'-10', cobbly gravel. Interval from 0.5' to 10' is acceptable for Item 105 but unacceptable for Item 201 because a slight excess passes the #4 screen.
	2	1969	2-5.5	0-2	Yes	92.7	81.5	64.3	1.3	1.0 0.6*	1	---	Gran Borrow (Gravel)	Test #2 was in floor back from Test #1. Material is: 0-2', clay seam; 2'-5.5', coarse sand with pebbles and a few boulders that is acceptable for Item 105 but unacceptable for Item 201 because of an excess passing the #4 screen. Water was encountered at 5' and bottom was silt-clay with gentle southward dip. Extension of material in this area is limited by Town Highway #16 at north-east and property line fence 30' north of pit.
23	1	1969	2-5	0-2	No	100	100	94.1	15.1	1.0 0.9*	1	---	Sand	Owner: Elwyn Brown Area is a wooded ridge south of Dunn Brook and N. 35° W. of owner's farm on Vermont Route 100. Test #1 was at bare place on crest of ridge. Material is: 0-2', dirty brown silt with many trans-verse evergreen roots; 2'-5',

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 26

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-2;	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														fine sand with pebbles that is acceptable for Item 202; 5'-9', silt-clay. Extent of this deposit was not determined but is probably limited to the crest of the ridge.
24	1	1969	0.5-10	0-0.5	No	100	100	100	53.0	10.0*	1	----	Gran. Borrow (Sand)	Owner: Clarence Hill. Area is a northwest trending wooded ridge at point 0.15 mile southeast of Map Identification No. 25 via woods road. Test #1 was next to road. Material is: 0-0.5', sod; 0.5'-10', fine sand that is acceptable for Item 105 but unacceptable for Item 202 because of excesses passing the #100 and #270 mesh sieves. Continuation of this ridge to the east terminates at Map Identification No. 27.
25	1	1969	4-10	0-4	Yes	100	100	97.2	48.6	9.0 8.7*	1½	----	Gran. Borrow (Sand)	Owner: Emilien Tanguay. Area is a grown-in pit south of cemetery west of Vermont Route 100. Test #1 was in lower west face. Material is: 0-2', sod and silt; 2'-4', cobbles (not tested); 4'-10', fine to very fine sand that is

*Percentage of Total Sample

TABLE I NEWPORT GRANULAR DATA SHEET NO. 27

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														acceptable for Item 105 but excesses of material passing the #100 and #270 mesh sieves fail it for Item 202.
26	1	1969	3.5-10.5	0-3.5	No	90.7	78.8	65.6	2.0	1.0	1	16.7%	Gran. Borrow (Grav.)	Owner: Emilien Tanguay. Area is a high terrace north of pits at Map Identification No. 30 and east of Vermont Route 100. Access is by way of field road 0.19 mile south and east of Test #5. Test #1 was on hilltop at west end of area next to utility pole #2. Material is: 0-1', sod; 1'-3.5' dirty silt and cobbles (not tested); 3.5' - 10', cobbly gravel (estimated 20% cobbles not included) with sand that is acceptable for Item 105 and meets abrasion requirements for Item 201. Material submitted failed to meet grading requirements for Item 201 because it contained insufficient stone.
	2	1969	2-10	0-2	No	56.5	41.1	28.7	3.0	1.0	1	19.1%	Gravel	Test #2 was 12' north of property line fence and 65' west of Utility Pole #5.

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 28

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	3	1969	1-10	0-1	No	57.3	44.6	33.4	4.0	2.5	1½	12.7%	Gravel	Material is: 0-2', sod and silt; 2'-4.5', sand; 4.5'-10', cobbly gravel becoming cemented with depth. Interval between 2' and 10' is acceptable for Item 201. Test #3 was at southeast corner of property about 350' east of Test #2. Material is: 0-1.5', sod and silt; 1.5'-10', cobbly gravel, coarsening with depth, that is acceptable for Item 201.
	4	1969	1.5-10	0-1.5	No	68.2	53.5	38.9	4.0	2.5	2	12.2%	Gravel	Test #4 was 390' north of Test #3 and 8' west of property line fence. Material is a cobbly gravel from 1.5' to 10' that is acceptable for Item 201.
	5	1969	2-10	0-2	No	80.4	66.9	44.9	2.0	1.0	1	9.0%	Gravel	Test #5 was 360' north of test #4 and 8' west of property line fence. Material is similar to but finer than previous tests in this area. From 2' - 10' it is acceptable for Item 201.
27	1A	1967	1-7	0-1	Yes	97.7	91.0	82.2	3.3	1.0 0.8*	1	-----	Sand	Owner: Mrs. Alice Percy Area consists of a pit northeast of the junction of Town Highway #42 with Vermont Route 100 and its possible eastward extension.

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 29

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
	1A	1969	1-7	----	Yes	100	100	100	29.0	1.0*	1	---	Gran. Borrow (Sand)	Test #1A was in upper east face. Material is: 0-1', sod and silt; 1'-7', stony fine sand that is acceptable for Item 202.
	1B	1969	7-27	----	Yes	100	100	100	29.0	1.0*	1	---	Gran. Borrow (Sand)	Test #1B was in middle of east face below #1A. Material is: 7'-27', fine sand that is acceptable for Item 105 but fails for Item 202 because of an excess passing the #100 mesh sieve.
	1C	1969	27-36	----	Yes	100	100	100	32.0	7.0*	1	----	Gran. Borrow (Sand)	Test #1C was in lower east face below #1B. Material is fine sand that is acceptable for Item 105 but fails for Item 202 because of excesses passing the #100 and #270 mesh sieves.
	2	1969	0.5-11	0-0.5	Yes	100	100	100	45.0	9.0	1	----	Gran. Borrow (Sand)	Test #2 was in floor about 30' west of Test #1C. Material is: 0-0.5, silt and pebbles (not in place); 0.5-11.0, very fine sand that is acceptable for Item 105 but fails for Item 202 because of excesses passing the #100 and #270 mesh sieves.
	3	1969	1-5	0-1	Yes	92.8	84.2	64.0	2.0	1.0	1	11.6%	Gran. Borrow (Grav.)	Test #3 was in stripped possible extension 48' east of Test #1A. Material is: 0-1', a thin, northward dipping fine sand bed (not tested); 1'-5',

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 30

Map Ident No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														clean fine gravel that is acceptable for Item 105, but contains insufficient stone to meet the requirements for Item 201.
	4	1969	1-10	0-1	No	78.3	64.7	50.6	4.0	2.0	2	11.9%	Gravel	Test #4 was in field about 180' east of Test #3 and 50' south of property line fence. Material is: 0-1', sod and silt; 1'-10', cobbly gravel that is acceptable for Item 201.
	5	1969	2-10	0-2	No	51.4	41.1	28.6	5.0	2.5	1½	-----	Gran. Borrow (Grav)	Test #5 was in field about 300' east of Test #4 and 35' south of property line fence. Material is: 0-1', sod; 1'-2', sand (not tested); 2'-10', cobbly gravel that is acceptable for Items 105 and 201 on grading. But there was insufficient proper size stone for the "per cent of wear" test.
	6	1969	2-10	0-2	No	64.5	53.1	41.7	5.0	2.0	2	11.8%	Gravel	Test #6 was in field 350' east of Test #5. Material is: 0-2', sod and sand; 2'-10', cobbly gravel that is acceptable for Item 201. (estimated 20% 4"+ stones not included in sample).

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 31

Map Ident. No.8	Field Test No.	Year Field Tested	Depth of Samples (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	7	1969	2-10	0-2	No	67.0	55.6	39.7	6.0	1.0	1½	14.1%	Gravel	Test #7 was 300' south of Test #6 and 50' north of Town Highway #42. Material is: 0-1', sod; 1'-2', silt (not tested); 2'-10', cobbly gravel that is acceptable for Item 201.
	8	1969	0.5 -10.5	0-0.5	No	76.8	52.3	32.5	3.0	1.0	1	11.4%	Gravel	Test #8 was 390' S. 10° W. of Test #5 and 460' S. 75° W. of Test #7. Material is stripped and consists of: 0-0.5', silt; 0.5'-10.5', cobbly gravel that is acceptable for Item 201.
	9	1969	0.5-10	0-0.5	Yes	100	100	100	23.0	3.0*	1	---	Gran. Borrow (Sand)	Test #9 was 120' west of Test #8 in small excavated pit floor. Material is: 0-0.5', silt; 0.5'-10', fine sand that is acceptable for Item 105 but fails to meet requirements for Item 202 because of an excess passing the #100 mesh sieve. The average thickness of gravel in this area east of the stripped eastward pit extension is 8.5 feet.

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 32

Map Ident. o.	Field Test No.	Year Field Tested	Depth of Samples (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-2;	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
28	1	1969	0.5-14.5	0-0.5	Yes	69.8	50.5	37.7	23.0	6.0	2½	8.3%	Gran. Borrow (Grav.)	Owner: Clarence Hill. Area is a pit, partially filled with trash, that is northwest of owner's house on Vermont Route 100. Test #1 was in face at west end of pit. Material is: 0-0.5', sod; 0.5'-14.5', coarse gravel with cobbles toward bottom that is acceptable for Item 105 but excesses passing the #100 and #270 mesh sieves fail it for Item 201.
29	1A	1969	2-7	0-2	No	78.0	57.1	40.7	5.0	3.0	1½	16.9%	Gravel	Owner: Mrs. Alice Percy. This area is comprised of a field that is east of the pit at Map Identification No. 31 but separated from it by a house trailer. Test #1A was located just to the west of Roberts property line stake. Material is: 0-2', sod; 2'-7', clean coarse gravel that is acceptable for Item 201.
	1B	1969	7-10	---	No	67.6	51.5	38.0	5.0	2.5	2	10.9%	Gravel	Test #1B was beneath Test #1A. Material is: 7'-10', cobbly coarse gravel that is acceptable for Item 201.

* Percentage of Total Sample

TABLE I. NEWPORT GRANULAR DATA SHEET NO. 33

Map Ident. No.	Field Test No.	Year Field Tested	Dept of Sample (Ft.)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Pasiing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
	2	1969	1-9.5	0-1	No	75.5	56.9	42.0	2.0	0.5	1½	15.2%	Gravel	Test #2 was located at point 155' south of Town Highway #42 and S. 75° E. of house trailer, about 440' from #1A. Material is: 0-1', sod; 1'-9.5', clean coarse gravel that is acceptable for Item 201.
30	1A	1969	6-12	0-6	Yes	71.6	56.5	44.5	4.0	1.5	1½	14.1%	Gravel	Owner: Mrs. Angela Roberts Area consists of a field south of Percy farm house at end of Town Highway #42. Field slopes toward Smith Pond. Test #1A was in middle of south face of small pit. Material is: 0-2', sod and silt; 2'-6', cobbles (not tested but probably a source for Item 205, Sub-Base of Crushed gravel); 6'-12', cobbly coarse gravel that meets the requirements for Item 201.
	1B	1969	12-17	---	Yes	100	100	100	43.0	9.0*	1	----	Gran. Borrow (Sand)	Test #1B was in lower south face of pit. Material is: 12'-17', silty fine sand that is acceptable for Item 105 but unacceptable for Item 202 because of excesses passing the #100 and #270 mesh sieves.

*Percentage of Total Sample

TEST I

NEWPORT GRANULAR DATA SHEET NO. 34

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	2	1969	2-8.5	0-2	Yes	100	100	99.6	15.9	3.0*	1	-----	Sand	Test #2 was in floor of pit. Material is: 0-2', silt and stones not in place; 2'-8.5', clean sand that is acceptable for Item 202.
	3	1969	0.5-7.5	0-0.5	No.	86.5	74.4	60.0	2.0	0.5	1½	13.2%	Gravel	Test #3 was at top of hill 75' due east of pit. Material is: 0-0.5', sod; 0.5'-7.5', clean gravel that is acceptable for Item 201.
31	1A	1969	2.5-6.5	0-2.5	Yes	100	97.5	92.1	8.3	1.5 1.4*	1	-----	Sand	Owner: Mrs. Alice Percy. Area consists of a pit southeast of the junction of Town Highway #42 with Vermont Route 100 and its possible eastward extension. A house trailer was located east of the pit next to Town Highway #42 and no testing was done within a radius of 100' from it. Test #1A was in south center of east face of pit. Material is: 0-2.5', stones and silt (not tested); 2.5'-3.5', coarse pebbles and sand; 3.5' - 6.5', brown sand. Interval from 2.5'-6.5' is acceptable for Item 202.
	1B	1969	6.5-13	____	Yes	52.4	44.8	33.2	2.0	0.5	1	-----	Gran. Borrow (Grav.)	Test #1B below Test #1A in lower east face consisted of: 6.5' - 13', highly

*Percentage of Total Sample

TABLE II

NEWPORT GRANULAR DATA SHEET NO. 35

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														compacted cobbly gravel, southward dipping, that is acceptable for Item 201 on grading but there was insufficient proper size stones for the "per cent of wear" test.
	2	1969	0-4.5	---	Yes	63.8	54.6	41.2	4.0	1.0	1	10.9%	Gravel	Test #2 was in floor immediately below test #1B. Material is: 0-1', pebbly sand; 1'-4.5', cobbly gravel that meets the requirements for Item 105 and Item 201.
	3	1969	0-10	----	Yes	T E S T L O S T I N T R A N S I T								Test #3 was dug with backhoe in stripped area about 25' northeast of pit. Material is 0-10', fine orange gravel. Sample was lost in transit.
	4	1969	1-10	0-1	No	87.5	74.0	49.8	3.0	2.5	1	10.3%	Gravel	Test #4 was in gentle hillside 170' south of pit. Material is: 0-1', silt; 1-'10', clean fine gravel that is acceptable for Item 201.
	5A	1969	2.5-5.5	0-2.5	No	100	97.1	85.6	1.7	0.5 0.4*	1½	----	Sand	Test #5A was at high point in field near gate at Wheeler property 270' S. 60° E. of Test #4. Material is: 0-2.5', sod and silt; 2.5'-5.5', clean pebbly sand that is acceptable for Item 202.

*Percentage of Total Samples

TABLE I. NEWPORT GRANULAR DATA SHEET NO. 38

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % k Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	5B	1969	5.5-8.5	-----	No	70.9	63.3	43.8	4.0	2.5	1½	16.5%	Gravel	Test #5B was beneath Test #5A. Material is: 5.5'-8.5', coarse well graded gravel that is acceptable for Item 201.
	6	1969	1-8	0-1	No	90.0	71.7	51.2	2.0	1.0	1	12.3%	Gravel	Test #6 was at point in field 350' southeast of Test #3 and 200' north of Test #5A. Material is: 0-1', sod; 1'-8', clean coarse gravel that is acceptable for Item 201.
32	1	1969	0.5-4.5	0-0.5	No	61.3	55.6	36.4	12.0	7.0	1½	16.0%	Gran. Borrow (Grav.)	Owner: Clarence Hill. Area is a field east of the Richard Hill residence south of Vermont Route 14. This area was stripped when Hill residence was erected. Test #1 was next to property line fence at northeast corner. Material is: 0-0.5', sod; 0.5'-4.5', cobbles with a large boulder at bottom (about 10% 4" + cobbles not included in sample) that is acceptable for Item 105 but fails for Item 201 because of an excess passing the #270 mesh sieve.

*Percentage of Total Samples

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 37

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
33	1	1969	1-11	0-1	No	78.3	65.4	44.5	3.0	1.0	2½	20.1%	Gravel	Owner: Ceylon Wheeler Area is a field south of Map Identification No. 20 and north of Vermont Route 14. Test #1 was at east edge of field at point 120' south of corner. Material is: 0-1', sod; 1'-11', gravel (with increasing cobbles to depth) that is acceptable for Item 201.
34	1	1969	1-4.5	0-1	No	84.3	68.1	40.1	5.0	2.0	2½	12.4%	Gravel	Owner: Edwin Duckless. Area is field east of owner's farm house and north of Vermont Route 14. Test #1 was at east edge of field 40' N. 35° W. of tenant house. Material is: 0-1', sod; 1'-4.5', fine gravel that is acceptable for Item 201; bottom, cobbles.
	2	1969	1-4.5	0-1	No	59.0	42.7	24.9	8.0	2.5	2½	10.5%	Gravel	Test #2 was at edge of woods 300' N. 35° W. of Test #1. Material is: 0-1', sod; 1'-4.5', dirty cobbly gravel with angular cobbles that is acceptable for Item 201; 4.5'-5.5', large cobbles.

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 30

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
35	1A	1969	1.5-9	0-1.5	Yes	100	93.2	83.3	15.8	3.0 2.5*	2½	-----	Sand	Owner: Harry Sherlaw Area consists of two pits southwest of the Sherlaw house on Vermont Route 100. First pit tested (Tests #1A and #1B) is 210' south of house trailer, and is reached by field road for travel to dump southeast of it. Second pit is completely overgrown with poplars and is located 190' northeast of the other pit (Tests #2 and #3). Test #1A was in upper east face of first pit. Material is: 0-1.5', sod and silt; 1.5-9', stony sand; 5'-6', gravel; 6'-9', pebbly sand. Interval from 1.5'-5', stony sand; 5'-6', gravel; 6'-9', pebbly sand. Interval from 1.5' to 9' is acceptable for Item 202.
	1B	1969	9-12.5	-----	Yes	100	97.8	92.9	39.9	1.0 0.9*	1	-----	Gran. Borrow (Sand)	Test #1B was in lower east face of first pit, below Test #1A. Material is:

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 39

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														9'-12.5', silty fine sand that is acceptable for Item 105 but fails for Item 202 because of an excess passing the #100 mesh sieve. Bottom is stony clay.
	2	1969	1.5-6.5	0-1.5	Yes	100	100	79.5	23.0	8.0	1½	----	Gran. Borrow (Sand)	Test #2 was in west-central face of second pit. It was dug from the top by backhoe. Material is: 0-1.5' sod and silt; 1.5'-3', sand; 3'-6.5', silt-clay with stones at bottom. Interval from 1.5' to 6.5; is acceptable for Item 105.
	3	1969	1-3.5	0-1	Yes	N O T S A M P L E D								Test #3 was in sparsely wooded floor of second pit near northwest end. Material is: 0-1', sod; 1'-3.5', silt and stones (not tested).
36	1	1969	1.5-9.5	0-1.5	No	100	100	54.0	22.0	8.0	1	----	Gran. Borrow (Sand)	Owner: J. Germain Deslandes. Area consists of an Elongate Hill S. 60° E. of owners farmhouse on Vt. Rte. 100. Test #1 was on crest of hill about 1250' from farm-house. Material is: 0-1.5', sod and silt; 1.5'-5.5', poorly bedded and poorly graded sandy silt with stones; 5.5'-7;, silty sand; 7'-9.5', sandy silt with stones. Interval from 1.5' to 9.5'

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 40

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
														is acceptable for Item 105.
37	1	1969	1-9	0-1	No	100	---	78.7	54.7	---	----	------	------	Owner: J. Germain Deslandes. Area consists of a long, westward trending ridge south of the owner's farm-house on Vermont Route 100. Test #1 was south of gate leading to oat field at point 1500' S. 20° W. of owner's barn. Material is: 0-1', sod; 1'-9', silt with stones that is classified as A-4 silt.
	2	1969	1-5	0-1	No	N O T S A M P L E D								Test #2 was at east end of ridge at point 1500' east of Test #1. Material is: 0-1', sod; 1'-5', boulder silt that was not tested.
38	1	1969	1-10	0-1	No	100	100	91.8	13.8	1.5 1.4*	1½	-----	Sand	Owner: Eugene Labreque. Area consists of a terrace in field southeast of barn on Town Highway #22, and across brook. Test #1 was at highpoint in field near southeast corner. There had been a small pit at point where tested that was filled in subsequent to 1962. Material is: 0-1', sod; 1'-10', sand that is

*Percentage of Total Sample

TABLE I. NEWPORT GRANULAR DATA SHEET NO. 41

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														acceptable for Item 202. Owner seems reluctant to reopen this area as a materials source. Logical direction of extension would be southeast into property at Map Ident. No. 39.
39	1	1969	2-9	0-2	Yes	100	100	94.2	20.7	3.0 2.8*	2	-----	Gran. Borrow (Sand)	Owner: John Brault. Area is field east of barn with pit overlooking brook to northeast. Field adjoins Labreques south field at northwest. Test #1 was in north face of pit. Material is 0-2', sod; 2'-9', sand that is acceptable for Item 105 but fails for Item 202 because of a slight excess passing the #100 mesh sieve.
	2	1969	2-10	0-2	No	100	100	100	68.0	18.0	1	----	----	Test #2 was located in middle of slightly higher terrace 130' south of pit. Material is: 0-2', sod; 2'-10', silty sand that fails to meet the requirements for Item 105.

*Percentage of Total Sample

TEST I

NEWPORT GRANULAR DATA SHEET NO. 42

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Existing Pit	Sieve Analysis % Passing 1½"	5/8"	#4	#100	#270	Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
40	1A	1969	2-10.5	0-2	Yes	100	100	95.6	29.6	5.0 4.0*	1	----	Gran. Borrow (Sand)	Owner: J. P. Bonneau. Area consists of a pit east of Town Highway #22 north of Beetle Brook. Pit is double level with water showing in both floors. Test #1A in upper north face of upper level. Material is: 0-2', sod and silt; 2'-10.5', alternating sand and pebbly sand layers that are acceptable for Item 105 but fail for Item 202 because of an excess passing the #100 mesh sieve.
	1B	1969	10.5-14.5	-----	Yes	100	96.6	83.0	19.9	3.0 2.5*	1½	-----	Gran. Borrow (Sand)	Test #1B was below #1A and material is similar to that of #1A. From 10.5'-14.5', sand and pebbly sand layers are acceptable for Item 105 but fail for Item 202 because of a slight excess passing the #100 mesh sieve.
	2	1969	0-10	------	Yes	98.0	87.8	77.6	15.5	3.0 2.3*	3	----	Sand	Test #2 was in east face of lower level. Material is: 0-10', stones, sand and silt that is acceptable for Item 202.
	3	1969	0.5-3.5	0-0.5	Yes	----	----	100	93.7	-----	--	----	----	Test #3 was at east end of upper floor level, about 115' from lower level. Material is: 0-0.5', sod; 0.5'-3.5', sandy silt that

*Percentage of Total Sample

TEST I

NEWPORT GRANULAR DATA SHEET NO. 43

Map Ident. No.	Field Test No.	Year Field Tested	Depah of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	4	1969	0.5-4.5	0-0.5	Yes	100	97.9	80.0	9.6	2.0 1.6*	1	------	Sand	was classified an A-4 soil type. Test #4 was in floor of lower level. Material is: 0-0.5', not in place; 0.5'-4.5', pebbly sand that is acceptable for Item 202. At this area 10 to 14 feet of Item 202 material is overlain by 12 feet of Granular Borrow. Eastward extent was not fully determined but the presence of glacial till on the surface east of and silt at Test #3 point to limited extension possibilities.
41	1	1969	0.5-10.5	0-0.5	No	100	95.5	91.0	22.8	3.0 2.7*	1	-----	Gran. Borrow (Sand)	Owner: J. P. Bonneau Area consists of a westward sloping terrace south of Beetle Brook and east of Town Highway #22. Test #1 was at approximate elevation of top of pit at Map Identification No. 43. It was located at point 55' north of utility line and 65' east of Town Highway. Material is: 0-0.5', sod; 0.5'-5', fine sand; 5'-6', coarse clean sand that pinches out toward north;

*Percentage of Total Sample

TEST I

NEWPORT GRANULAR DATA SHEET NO. 44

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
						1½"	5/8"	#4	#100	#270				6'-10.5', sand with a few coarse pebbles. Interval from 0.5' to 10.5' is acceptable for Item 105 but fails for Item 202 because of an excess passing the #100 mesh sieve.
	2	1969	0.5-12	0-0.5	No	92.7	85.9	65.0	11.0	1.5	1½	9.9%	Gran. Borrow (Grav.)	Test #2 was located at point 85' N. 80° E. of and 12' higher than Test #1. Material is: 0-0.5', sod; 0.5'-3', stony coarse sand; 3'-12', fine to coarse sand with stones. Interval from 0.5' to 12' is acceptable for Item 105 and Item 201 abrasion requirements. However, it contains too much stone to be acceptable for Item 202 and too little stone to meet the grading requirements for Item 201.
	3	1969	1-12	0-1	No	100	100	93.1	21.4	1.0 0.9*	1	---	Gran. Borrow (Sand)	Test #3 was located at point 125' S. 75° E. of and 15' higher than Test #2. Material is: 0-1', sod; 1'-12', sand with stones that is acceptable for Item 105 but fails for Item 202 because of an excess passing the #100 mesh sieve.

*Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET. NO. 45

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
	4	1969	0.5-10.5	0-0.5	No	100	94.3	85.5	17.1	3.0 2.6*	2	----	Sand	Test #4 was located at point 70' S. 85° E. of and 15' higher than Test #3. Material is: 0-0.5', sod; 0.5' - 8.5', fine sand with numerous pockets of coarse sand; 8.5' - 10.5', fine-sand. Interval from 0.5' to 10.5' is acceptable for Item 202. A few 1½" + stones were not included with the sample.
	5A	1969	0.5-3.5	0-0.5	No	82.5	68.6	51.5	8.0	3.0	3½	----	Gran. Borrow (Grav.)	Test #5A on top of terrace next to north edge at point 140' N. 70° E. of and 7½' higher than Test #4. Material is: 0-0.5', sod; 0.5'-3.5', dirty gravel with occasional cobbles that is acceptable for Item 105 and Item 201 on grading but there was insuff-icient proper size stone for the "per cent of wear" test.
	5B	1969	3.5-10	-----	No	100	97.5	87.6	14.0	2.0 1.8*	2	----	Sand	Test #5B was beneath Test #5A. Material is: 3.5'-10', pebbly sand that is accept-able for Item 202.
	6	1969	1-10	0-1	No	100	98.4	90.6	14.5	1.5 1.4*	1½	----	Sand	Test #6 was next to south edge of terrace at point 150' S. 30° E. of Test #5. Material is: 0-1', sod and silt; 1'-10', slightly pebbly sand that is acceptable

* Percentage of Total Sample

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 46

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
42	1	1969	1-4	0-1	No	100	87.4	69.4	13.0	7.0	3	-----	Gran. Borrow	for Item 202. Owner: Milton Wright, Area is a field north of west extension of Town Highway #29. It consists of rolling pasture land that dips gently northwards. Test #1 was near north edge of field north of old barn foundation. Material is: 0-1', sod; 1'-4', stony fine gravel that is acceptable for Item 105 but contains too many stones to meet grading requirements for Item 202.
43	1	1969	1-2	0-1	No	N O T S A M P L E D								Owner: Milton Wright, Area is a field south of west extension of Town Highway #29. It contains crescent-shaped terrace with scarp slope facing south. Test #1 was on top near east edge of terrace. Material is: 0-1', rich sod; 1'-2', silt and rounded stones; 2'-3.5', silt and stones. Material was not tested.
	2	1969	1-3.5	0-1	No	----	----	97.3	74.4	----	-----	-----	----	Test #2 was located about 200', west-southwest of Test #1 near southwest corner of terrace. Material from 1'-3.5' is silt and stones that is classified as an A-4 soil type.

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 47

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
						1½"	5/8"	#4	#100	#270				
44	1	1969	0.5-5.5	0-0.5	Yes	66.0	48.0	29.8	8.0	3.0	1½	15.4%	Gravel	Owner: Howard Conley. Area consists of a pit south of Town Highway #30 that is largely depleted. Test #1 was at north end of pit in stripped area. Material is: 0-0.5', silt, 0.5'-5.5', cobbly gravel that is acceptable for Item 201 with 20% 4" + stones not included, 5.5'-7.5', clay.
	2	1969	0.5-3.5	0-0.5	Yes	81.1	60.5	39.1	13.0	5.0	1½	14.2%	Gravel	Test #2 was in floor of lowest level about 240' south of Test #1. Material is: 0-0.5', thin sod; 0.5'-1.5', dirty sand; 1.5'-3.5', coarse gravel with water at 3'. Interval from 0.5' to 3.5' is acceptable for Item 201; bottom, boulders and clay.
	3	1969	2-7.5	0-2	Yes	74.1	65.1	47.4	22.0	12.0	2	17.8%	-----	Test #3 was in possible extension north of stripped area west of pit complex. Material is: 0-2', sod and silt; 2'-7.5', poorly bedded gravel with cobbles that is unacceptable for Item 105.
	4	1969	1-2	0-1	Yes	N O T S A M P L E D								Test #4 was in floor of stripped area west of pit complex. Material is: 0-1', silt and stones;

TABLE I

NEWPORT GRANULAR DATA SHEET NO. 48

Map Ident. No.	Field Test No.	Year Field Tested	Depth of Sample (Ft)	Over-burden (Ft)	Exist-ing Pit	Sieve Analysis % Passing					Color AASHO T-21	Abrasion AASHO T-4-35	Passes VHD Spec.	Remarks
						1½"	5/8"	#4	#100	#270				
														1'-2', fine gravel that was not tested; 2'-6.5 , stony clay.

TABLE I
Supplement

NEWPORT PROPERTY OWNERS - GRANULAR	MAP IDENT. NO.
Beadle, Roger	1
Bonneau, J. P.	40, 41
Brault, John	39
Brown, Elwyn	22, 23
Chaput, Leo	7, 8, 9
Chaput, Violet, Mrs.	4, 5, 6
Conley, Howard	44
Darby, Albert	1
Darby, Edward	10
Deslandes, J. Germain	36, 37
Duckless, Edwin	34
Farrar, Donald	3
Hill, Clarence	18, 21, 24, 28, 32
Hilliker, Myrl	11, 12, 13, 14, 15
Labrecque, Eugene	38
Lucien, Conrad	16, 20
Percy, Alice, Mrs.	27, 29, 31
Roberts, Angela, Mrs.	30
Sherlaw, Harry	35
Tanguay, Emilien	17, 19, 25, 26
Verdon, Williea	2
Wheeler, Ceylon	33
Wright, Milton	42, 43

NEWPORT

ROCK DATA SHEET NO. 1

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Existing Quarry	Method of Sampling	Abrasion AASHO T-3	Remarks
1	1	1969	Quartzite – Greenstone	No	Chip	5.2%	Owner: Yves Brasseur. Area is hilltop in pasture 0.5 mile east of Vermont Route 105 just south of Newport Center. Tests were on ridge north of utility line. Rock sampled is mapped as the Coburn Hill volcanic member of the Missisquoi formation but the presence of quartzose schist probably is indicative of proximity to the Moretown member of the same formation. Test #1 was in the westernmost and lowest exposure. Material sampled apparently consists of two different rock types. The western 26' of the 35-foot long sample was of a light-green schistose quartzite that weathers reddish-brown. Phyllitic partings were noted. Remaining 9' was of a relatively more massive and darker green rock that is questionably greenstone. Sampling was continuous at right angles to the N. 10° W. or N-S strike of the westward dipping bedding. The quartzite breaks into flat, splintery or hackly pieces and the green rock breaks angular to to blocky.
	2	1969	Greenstone - Amphibolite	No	Chip	2.3%	Test #2 began 50' east of Test #1 because an absence of outcrops in the intervening distance precluded sampling. Sample traverse extended over the top of a rock ridge for 65' and ended 100' north of an old sugarhouse. This traverse had 25 to 30 feet of relief. Rock sampled at the bottom 5' of a 15-foot ledge on the west side of the ridge has the appearance of medium-to coarse-grained diorite with poorly developed, widely spaced joints. Remainder of the sample traverse was a gray to dark-gray volcanic rock with the appearance of a fairly well-fractured trap rock.

NEWPORT ROCK DATA SHEET NO. 2

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Existing Quarry	Method of Sampling	Abrasion AASHO T-3	Remarks
2	1	1969	Grano-diorite and schist	No	Chip	4.6%	Owner: Richard Desrocher. Area is an east-facing hillside in pasture about 0.2 mile south of Vermont Route 105 and southwest of an old house and several junked cars. Inspite of its adequate areal extent, material would be marginal as a source of crushed rock because of texture and structural characteristics. Much stripping and some clearing would be necessary to open up a face. Access is good via an abandoned Town Highway. Outcrops begin at the lower edge of the hillside but are discontinuous. Test #1 sampled a 20-foot wide outcrop at the lower edge in addition to a 15-foot wide exposure 140' west-northwest of and 10' above it. In the lower outcrop a green schistose quartz-chlorite rock grades into a granitic rock with minor quartz. The latter may be an irregular igneous body or intrusive sill but sharp contacts were not discovered. This rock breaks into angular and tabular fragments. It was not possible to obtain completely unweathered pieces and the ones obtained are fairly hard. The upper outcrop forms an 8-foot high ledge. Rock sampled varies from fine-grained granodiorite to quartzose schist that apparently developed in a contact zone against the Cram Hill member of the Missisquoi formation. Traverse of this test was at right angles to the N. 15° E. trend of this rock which parallels major joint planes in the granodiorite. About 31% of the exposures sampled was granodiorite.
	2	1969	Grano-diorite and schist	No	Chip	4.4%	Test #2 was taken in a steep ledge with 18 to 20 feet of relief at a point 105' southwest of Test #1 and above it in elevation. 30 feet across the strike was

NEWPORT

ROCK DATA SHEET NO. 3

Map Ident. No.	Field Test No.	Year Field Tested	Rock Type	Existing Quarry	Method of Sampling	Abrasion AASHO T-3	Remarks
							sampled. The eastern 10' is comprised of a 1-foot granitic dike sandwiched by a fine-grained light to dark gray schist. The western 20' is a coarse-grained granitic rock that is somewhat friable and becomes powdery when shattered.

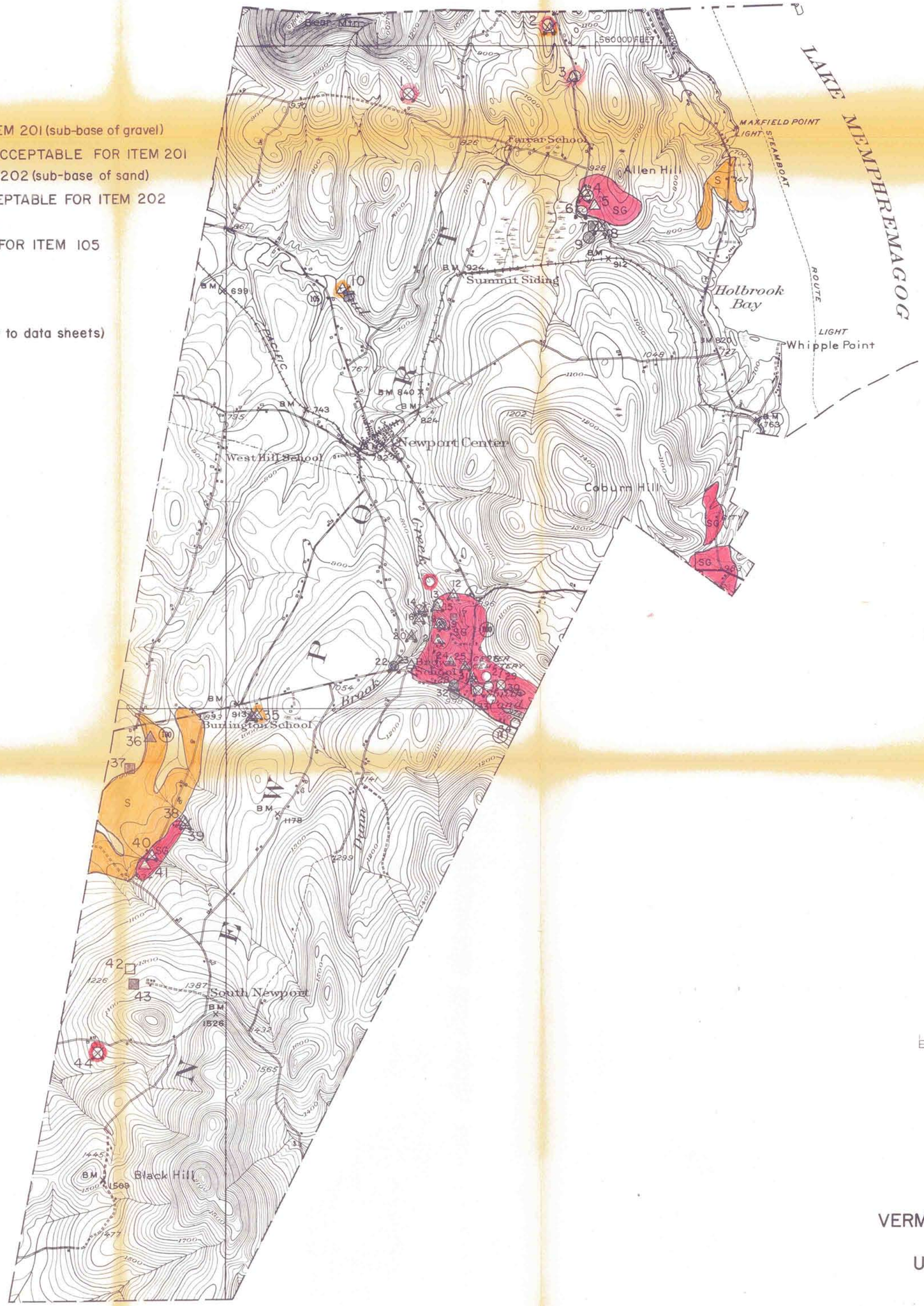
TABLE II.
Supplement

NEWPORT PROPERTY OWNERS - ROCK	Map Ident. No.
Brasseur, Yves	1
Desrocher, Richard	2

NEWPORT

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)



N

NEWPORT

SCALE 1:31,250

0.5 0 1 MILE

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 I

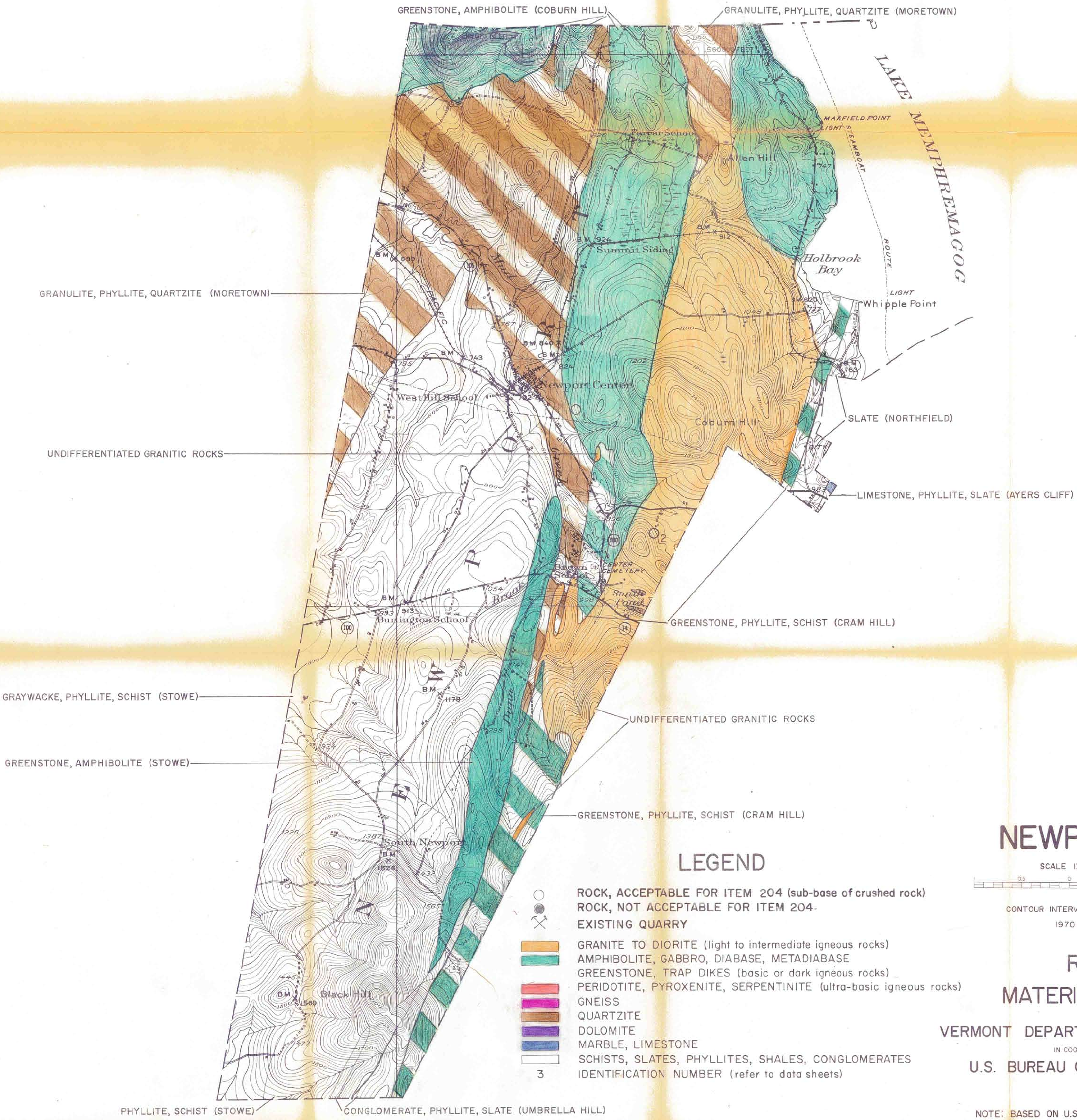
GRANULAR

ORLEANS COUNTY VT. HWY. DISTRICT NO. 9

REVISIONS

DATE						
BY						

NEWPORT


GREENSTONE, AMPHIBOLITE (COBURN HILL)
GRANULITE, PHYLLITE, QUARTZITE (MORETOWN)
LAKE MEMPHREMAGOG
MAXFIELD POINT
LIGHT
STEAMBOAT
ROUTE
Allen Hill
Holbrook Bay
LIGHT
Whipple Point
Summit Siding
GRANULITE, PHYLLITE, QUARTZITE (MORETOWN)
Newport Center
West Hill School
Coburn Hill
SLATE (NORTHFIELD)
UNDIFFERENTIATED GRANITIC ROCKS
LIMESTONE, PHYLLITE, SLATE (AYERS CLIFF)
CENTER CEMETERY
South Pond
GREENSTONE, PHYLLITE, SCHIST (CRAM HILL)
Burrington School
GRAYWACKE, PHYLLITE, SCHIST (STOWE)
UNDIFFERENTIATED GRANITIC ROCKS
GREENSTONE, AMPHIBOLITE (STOWE)
GREENSTONE, PHYLLITE, SCHIST (CRAM HILL)
South Newport
Black Hill
PHYLLITE, SCHIST (STOWE)
CONGLOMERATE, PHYLLITE, SLATE (UMBRELLA HILL)
N

LEGEND

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

NEWPORT

SCALE 1:31,250

CONTOUR INTERVAL 20 FEET

1970

ROCK MATERIALS MAP

BY

VERMONT DEPARTMENT OF HIGHWAYS

IN COOPERATION WITH

U.S. BUREAU OF PUBLIC ROADS

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

PLATE II ROCK

ORLEANS COUNTY VT. HWY. DISTRICT NO. 9 REVISIONS

DATE							
BY							