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By

Nicholas Allgaier

John Bottino

Scott Kimbrel

Garrett Sutton

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Approved by:

Professor Stephen Weininger

Professor Fabio Carrera

http://www.wpi.edu/~ve99sm

The opinions expressed in this report do not necessarily represent those of the sponsors.

ABSTRACT

This project has contributed to the efficiency and effectiveness with which soil information is organized and studied in Venice, Italy by computerizing soil core sample data collected by several geotechnical companies. A database was designed to store the data in such a way as to allow the soil information to be readily accessible. After this computerization was complete, a map of all soil test locations was developed, in which the pertinent information for each test can be instantly shown by simply selecting the location at which that test was performed.

ACKNOWLEDGEMENTS

We would like to take this opportunity to acknowledge all those who have given their support to this project. First and foremost, we would like to thank Worcester Polytechnic Institute for affording us the opportunity to complete this project in Venice as a part of the Global Perspectives Program. We extend our deepest gratitude to Fabio Carrera for his tremendous dedication and constant effort in extending this project to its fullest potential. We would also like to express our apprecitation to Professor Stephen Weininger, whose tireless devotion to our work has been invaluable.

Finally, we would like express our sincerest gratitude to our sponsor, Insula S.p.A., for their support of this project. We extend special thanks to Vincenzo Giannotti who acted as Insula's liaison, and helped to clarify the goals of our project.

AUTHORSHIP

Chapter 1 – John Bottino, Nick Allgaier

Chapter 2 – John Bottino, Nick Allgaier

Chapter 3

- 3.1 – Scott Kimbrel
- 3.2 – Scott Kimbrel
- 3.3 – Garrett Sutton
- 3.4 – Garrett Sutton
- 3.5 – Team

Chapter 4 – Team

Chapter 5

- 5.1 – John Bottino
- 5.2 – Nick Allgaier
- 5.3 – Nick Allgaier
- 5.4 – Nick Allgaier
- 5.5 – Scott Kimbrel, Garrett Sutton
- 5.6 – Scott Kimbrel, Garrett Sutton

Chapter 6

- 6.1 – John Bottino
- 6.2 – John Bottino
- 6.3 –John Bottino
- 6,4 – John Bottino
- 6.5 – Scott Kimbrel, Garrett Sutton

Chapter 7 – Scott Kimbrel, Garrett Sutton

Chapter 8 – Scott Kimbrel, Garrett Sutton

Editing – Team

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Chapter 1 - Introduction

The composition and characteristics of the soil at a maintenance site often affect how the maintenance is carried out. Effective organization of soil information is essential if any of the data collected are to be used for future interventions. Thus, the goals of this project were to computerize 21 soil reports, to propose a standard for the storage of soil information, and to develop computerized maps to visually represent the data contained in the reports. Finally, the possibility of constructing three-dimensional soil layer representations using Vertical Mapper was explored. This chapter provides a brief description of each subsequent chapter in the project report.

Background material is presented in Chapter 3. The information in this chapter includes reasons and methods for soil testing, common mapping procedures, and basic soil properties. The sponsor of this project, Insula S.p.A, is described at the end of the chapter. An annotated bibliography appears in Chapter 4, which lists and provides a brief description of each of the references used for the project.

The methodology used to design the soil report database and construct the computerized maps is described in Chapter 5. The chapter begins with a discussion of the typical soil report structure in which each part of the report is described. Data compilation and database table structure follow report structure. The chapter concludes with a discussion of mapping procedures.

Results and data analyses are given in Chapter 6. Database results such as the number of soil reports and tests that were catalogued, and the amount of work completed by each company, are given. A description of the types of soils throughout Venice and their respective depths, based on the data provide by Insula, is provided after database results. Map results and analyses are discussed in the last two sections of the chapter.

Conclusions are contained in Chapter 7 and pertain to the usefulness and effectiveness of the database and computerized maps that were created. This project's potential for decreasing the costs associated with obtaining soil information is also discussed in this chapter. Recommendations are given in Chapter 8. They address how the tools created in this project can be used most effectively, and also what steps should

be taken to construct an accurate three-dimensional representation of the soil layers beneath Venice.

Chapter 2 - Executive Summary

Soil testing is an integral component of the maintenance operations that are routinely conducted throughout Venice. Such testing involves either removing soil samples or conducting penetrability tests that measure the resistance of soil as a function of depth. After testing is complete and the data are analyzed, soil reports are created. These reports contain information relating to the types of soil present at various depths at a given test site. However, the soil reports are often difficult to read and poorly organized. Furthermore, the reports are fairly heterogeneous because the companies that created them used different formats. The consequence of this heterogeneity and ambiguity is that the reports are very difficult to use, often resulting in the need for additional and possibly unnecessary testing.

Insula S.p.A., the sponsor of this project, is an organization that was founded in 1997 to manage maintenance operations. Insula contracts maintenance interventions out to other companies that handle necessary project preparation and carry out the actual maintenance operations, which include soil testing. A report containing all soil test results is returned to Insula upon completion of each maintenance intervention. Insula provided 21 reports to be computerized in this project.

The main goals of this project were to standardize and computerize soil test information by creating a database to contain the information and a series of computer generated maps for visual representation. The database and maps that were created provide an efficient method for storing and representing soil information. Easily accessible information will allow companies to accurately assess what testing has been done where, and with that knowledge make decisions on whether or not additional testing is required. The programs that were used to complete these tasks were Microsoft Access, a database program; MapInfo, a mapping program; and finally Vertical Mapper, which adds contouring capabilities to MapInfo.

The standardization for soil information was twofold. It was necessary to determine what information was important to include, and how best to report that information. The determination of important data categories was based primarily on that information common to most of the existing reports. In cases where pertinent

information was only included in a few reports, it was included in the database nonetheless to ensure comprehensiveness.

The database was used to create a map in which the information for each test can be accessed by simply "clicking" on the location where that test was conducted. The map is not only useful for quickly and easily gathering test information, but as an accurate representation of where testing has been conducted which allows for the effective planning of future tests.

The elevations of the test locations had not been measured with respect to the common reference point in Venice called the mareographic zero thus making the information gathered difficult to use for areas that are not very close to the test sites. Vertical Mapper, an add-on to the mapping program, MapInfo, was able to successfully interpolate among known elevations to obtain the desired elevation measurements. Relating the test locations to the mareographic zero allowed accurate comparison among different tests.

The resulting database contains information relating to 21 reports, 149 soil core samples, and 121 penetrometric tests. Geotechnica Veneta conducted 36% of the core samples, and Geocomputer s.a.s. performed 66% of the penetrometric tests. Commune di Venezia and Insula S.p.A combined for 76% of the maintenance contracts. The test location map shows that core samples and penetrometric tests were predominantly conducted in clusters and not evenly distributed throughout Venice. The database and maps created in this project are useful tools for analysis as soil information can easily be extracted and graphically displayed. It was determined that clay, limey clay, clayey lime, and fine sand are the most prevalent soil types throughout Venice based on the reports provided by Insula. Representations of the amounts and depths of these soil types throughout Venice were constructed by using MapInfo to interpolate among test locations.

A three-dimensional layer model would be an ideal way to display the soil layers in Venice. The viability of creating such a representation with Vertical Mapper and the data provided was explored. It was determined that Vertical Mapper is not suitable for such layer mapping. This is mainly due to the fact that the program is designed for contour mapping and is unable to display multiple surfaces simultaneously. Also, the test

data were not best suited for three-dimensional mapping because the soil tests were not conducted in a sufficiently uniform manner. For purposes of three-dimensional layer representation, tests should be performed at evenly spaced locations based on a grid-overlay. This method allows for a very accurate estimation of soil characteristics at points between the test sites. If the existing tests were taken in this manner, trends in the data may have been more pronounced.

The idea of eliminating unnecessary testing was largely predicated on the assumption that soil characteristics are fairly consistent among locations that are relatively close to one another. The data used in this project did not show a strong consistency in this sense. However, this does not preclude the use of the data in reducing unnecessary tests. The information in the database has to be used in concert with professional expertise and in the context of each maintenance operation to make such determinations.

The soil test information contained in the reports given by Insula have been successfully computerized such that the information can now be quickly and efficiently accessed. Although not all the soil test information relating to Venice is currently in the database, a standard for storing such data has been proposed. In addition to an extremely useful database, several computerized maps have been created to display the soil data visually. Finally, methods for analyzing soil information using the database and computerized maps have been demonstrated. This project lays the groundwork for increasing the efficiency and effectiveness with which soil information is organized and studied, and in so doing helps to preserve the beautiful city of Venice

Chapter 3 - Background

Soil, so common to our environment yet so complex, has been studied for an extremely long time. The emergence of cities added a new dimension to the study of soil. As the complexity of buildings grew, the role of soil in maintenance interventions became more important. The soil characteristics in an area of a structure often affect the frequency and nature of the maintenance that is conducted. With this in mind, soil testing is frequently carried out.

Venice, a city like no other in the world, was built upon a collection of small islands located in the lagoon off the northeastern coast of Italy. The buildings of this city rest upon wooden pilings driven deep into the earth. These pilings were necessary, as the marshy islands of the lagoon were too soft to support all the weight of structures. In its prime, Venice was a great republic, rich with art and culture. Today, that beauty remains, attracting visitors from around the world. Because of its rich history, much effort has and continues to be directed towards the preservation of the city. Soil testing is an integral part of the successful completion of restoration projects, as it dictates the frequency of maintenance operations as well as the types of materials used. Since current methods of soil testing in Venice are relatively expensive and time consuming, it is desirable to devise alternative techniques for gathering soil information.

Testing involves conducting fieldwork and then creating soil core sample reports that describe the soil in a given location. When an organization in Venice, such as Insula S.p.A, conducts projects that require soil information, it contracts the work out to other companies that conduct the actual soil testing. The format used for the soil core sample reports often varies among companies, making the reports heterogeneous in nature and often unclear. As a result, the soil reports do not lend themselves well to long-term use, often precipitating the need for more testing a new project is undertaken. Making use of recent advances in database and mapping software can reduce the amount of soil testing, thus minimizing the use of limited resources.

In this chapter, a brief background on soil testing is provided. Reasons for testing soil, general methods of testing and mapping, and basic soil properties are described. The chapter ends with a description of our sponsor, Insula S.p.A.

3.1 Reasons for Soil Testing

The soil that any structure rests upon is of fundamental importance. Since soil is a very complex engineering material, construction and maintenance projects require knowledge of the type of soil upon which they are carried out in order to be successful. In engineering applications, soil is considered to consist of all earth materials, both organic and inorganic.[1] It has a very wide range of properties, which vary with depth and with horizontal change in location. It can be studied qualitatively and/or quantitatively, depending on what information is required. Many questions about the types of soil present at a project site can be answered by qualitative field identification techniques. However, fundamental planning for maintenance and construction operations requires more detailed inquiries. Quantitative tests involve the gathering of soil samples and the subsequent study of those samples in laboratories. Although soil properties vary greatly, such tests can provide an insight into the basic soil characteristics at a particular location.

3.2 Methods of Soil Testing

Soil testing consists of both field exploration and laboratory analysis. Field exploration can be divided into two main categories: indirect methods and direct methods. Indirect methods include site inspection and sounding, where no samples are taken. Direct methods include the actual gathering of samples by boring into the soil and removing a cross section of the layers. These samples are then analyzed in the laboratory to determine the soil properties. The laboratory analysis is highly complex and will not be discussed here because it does not directly pertain to this project.

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[1] Donald W. Taylor, *Fundamentals of Soil Mechanics* (New York: John Wiley & Sons, 1948), 9.

3.2.1 Indirect Methods of Soil Exploration

Site inspection is an indirect method of soil exploration in which general information is gathered. It includes the careful examination of the existing buildings in the neighborhood for cracks and other settling phenomena, allowing the depth and conditions of the building foundations to be determined. Studying geographical maps of the area can often give clues as to the composition of the soil at the site that is being examined. For example, the presence of certain plants is associated with some typical water movements and can provide clues to the internal water situation. [2]

Sounding is another indirect method of soil exploration that consists of forcing a rod into the soil by pressure, but without a sample being removed. The rod is attached to a penetration probe tip (Figure 1) which records the resistance force encountered as the probe passes through the soil layers. The penetration resistance encountered enables the strength and thickness of the successive layers of soil to be estimated. However, sounding can only supply subsoil data that complements information gathered by boring. Very thin layers that are not revealed through boring alone may be discovered using sounding. If the general soil conditions are known, it is often advantageous to perform soundings first, in order to determine the best locations for boring. Since, sounding is usually much less expensive and faster than boring. Static sounding is the most common technique used in Venice, and involves a rod that is continuously pressed into the soil (as opposed to being rammed in). Tip resistance and mantle frictions are measured in this technique, which leads to conclusions about both stratification and the strength of the individual strata. [3]

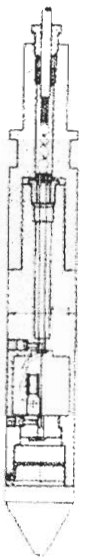

Figure 1: Penetration probe tip

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[2] Arpad Kezdi, *Handbook of Soil Mechanics: Soil Testing* (New York: Elsevier Scientific, 1980), 12.

[3] Ibid. 29.

3.2.2 Direct Methods of Soil Exploration

Direct methods of soil exploration are very useful for gathering physical samples of soil to determine the soil layers (by observation) and the soil properties (by laboratory testing). An example of a typical soil sample is shown in Figure 3. The least expensive

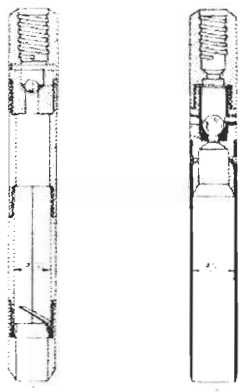

Figure 2: Common core sampling equipment

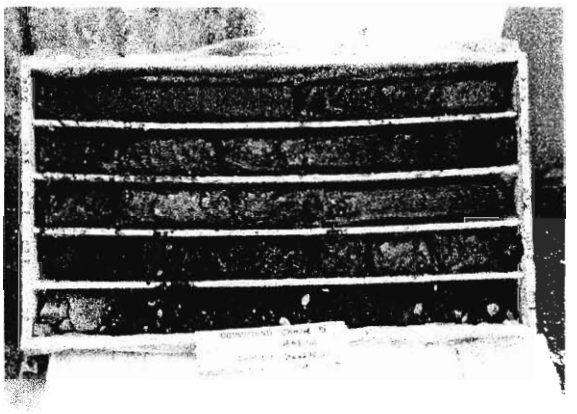

Figure 3: Soil core sample

and often most useful direct method of soil exploration is boring. This technique uses a drill-like device, which comes in several configurations, to physically remove a cross section of the underground soil (Figure 2). Inspection of the material removed from the borehole will reveal the thickness and quality of the layers forming the subsoil. Further laboratory testing can determine the permeability, compressibility and shear strength of the strata, but only if the samples are "undisturbed." An "undisturbed" sample is one that has not been damaged or mutilated by the boring process. However, there are no *absolutely* undisturbed samples, since the variation of stress conditions may cause significant changes in the sample. The problem of undisturbed sampling is still far from being solved, and is the most difficult fundamental problem in soil mechanics. The value of any subsequent examination depends on the merit of the sampling. [4]

[4] Ibid. 16.

3.3 Methods of soil mapping

In this section, background information on several methods of soil mapping is provided. Simple analogy, network, and interpolation are the three mapping methods discussed, as they are the most common.

3.3.1 Simple Analogy Method

In this procedure, an area of land is divided into several parts. Each represents a certain type of surface landform or contains a specific type of vegetation. After the land is divided, soil samples are taken at various points within each division. The properties of these samples are assumed to represent those of the whole division. This procedure is repeated for each division and results in a general description of the land area. [5]

3.3.2 Network Sampling

This procedure is more specific than the simple analogy method. Samples are taken at a network of sites within a given land area. These sites are either located on a regular grid or chosen by a surveyor to best represent the conditions at the location. The area in which the properties of the sample can be applied is determined using techniques such as aerial mapping. [6]

3.3.3 Interpolation

Interpolation is a process of predicting land surface or layer values where actual samples have not been taken. It consists of calculating new data points based on original data point observations. There are several different methods of interpolation. These methods are generally data specific. For instance, one particular technique may work better for highly variable data, while another may better suit data that require no regional averaging, such as elevation readings. Some common interpolation techniques include:

- Inverse distance weighting
- Triangulation
- Natural neighbor
- Rectangular

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[5] Brink, Partridge, and Williams, *Soil Survey for Engineering* (New York: Oxford University Press, 1982), 173.
[6] Ibid. 174.

Inverse distance weighting involves averaging data surrounding a test site, and considering the influence of that data as a function of their distance from that site. This method lends itself particularly well to interpolation among data that are randomly distributed such as the elevation readings for Venice. Therefore, it was decided that inverse distance weighting was the most appropriate interpolation technique to use in this project.

3.4 Basic Soil Properties and Classification

This section elaborates on basic soil properties of interest, and a commonly used classification technique.

3.4.1 Casagrande Classification and Engineering Properties of Soils

The Casagrande was one of the first comprehensive soil classification systems, and is based primarily on the distinction between fine and coarse-grained soils. Fine-grained soils include clay, silt, and organic clays and silts. Coarse-grained soils include sand and gravel. The coarse-grained group contains five subdivisions, and the fine-grained group contains three. A detailed outline of the Casagrande system is given in Table 1. [7]

[7] F.G. Bell, *Engineering Treatment of Soils* (London: E & FN Spon, 1993), 5.

Main soil type	
Coarse-grained soils	Gravel
	Sand
Fine-grained soils	Silt
	Clay
	Organic silts and clays
Fibrous soils	Peat
Subdivisions	
For coarse-grain soils	Well graded, with little or no fines
	Well graded with suitable clay binder
	Uniformly graded with little or no fines
	Poorly graded with little or no fines
	Poorly graded with appreciable fines or well graded with excess fines
For fine-grain soils	Low compressibility (plasticity)
	Medium compressibility (plasticity)
	High compressibility (plasticity)

Table 1: Casagrande soil classification system

Soil consists of masses of solid particles surrounding voids or empty spaces. These voids can be filled with air, water, or a combination of both. The total volume of a given sample is the sum of the volume of solid particles and the volume of void spaces. Some important properties to be considered when soil is examined for maintenance and construction projects include void ratio, porosity, degree of saturation, water content, and relative density. These properties are particularly useful in determining how the soil will handle a load.[8] As the density of the soil increases, the soil's ability to resist compression increases, thereby increasing the load that the soil can withstand. The size of the particles comprising the soil influences its properties. Generally, as particle size increases, the soil becomes stronger.[9] Another property that is very important in determining the capability of soil to withstand various loads is its shear strength. The higher the shear strength, the better the soil can withstand the static forces generated by structures.

3.4.2 The AGI Standard

AGI, the Associazione Geotecnica Italiana, is the organization that provided the general standard for soil testing in 1977. This standard relates to testing procedures, type of equipment used, and methods of recording and classifying

[8] Marian P. Rollings and Raymond S. Rollings, Jr., *Geotechnical Materials in Construction* (New York: McGraw-Hill, 1996) 132.

[9] F.G. Bell, *Engineering Treatment of Soils* (London: E & FN Spon, 1993), 12.

information. Soil types are represented by various patterns in the paper reports. Although AGI standardized these patterns, many companies used different variations. Consequently, AGI patterns could not always be used in reading the reports. The types of soil described by AGI were included in the database nonetheless for consistency's sake.

3.4.3 Geotechnical Data Banking

The recorded data obtained from field investigations includes detailed profiles for each record site. Information such as soil type at various depths is given in these reports. Descriptions at given depths are also included to elaborate on those instances where a mixture of soils is present. The reports can also contain penetrability data, which is commonly represented in graphs showing resistance as a function of depth. Locality sketches may be included on data storage sheets so that the sites can be accurately identified when necessary. A soil database might also be augmented with fields containing information relating to properties of disturbed soils, the properties of the undisturbed soil fabric, the compaction properties of soils, and the behavior of the soil fabric under stress (strength). Since these types of data are not included in the commercial soil reports, they were not included in the database.

3.5 Insula S.p.A.

This paragraph is taken from the information packet provided by Insula:

> *Insula was set up on July 10th 1997 with a capital of 4 thousand million lire [4 billion], by the Venice Municipality (52%) and the four companies involved with underground utilities (Aspiv, the Venice waterworks company, Ismes which is part of Enel, the electricity utility, Italgas and Telecom Italia, each with 12% of capital). A service contract with the Venice Municipality was stipulated on October 6th, 1997 and from then Insula has been fully operative. This contract turns over to Insula a series of tasks duly set out in its constitution, and dealing with the works covered by Law 139/92 and the Programme Agreement of 3rd August 1993, with particular reference to speeding up the work of dredging the canals, restoring the banks and the ancient sewerage system, [and] implementing local protection measures against high tides ("acqua alta"). Cooperation between the Municipality Administration and the various utilities mentioned*

above is essential for implementing such integrated works, because of the characteristics of fragility in a city like Venice. The primary objective of this collaboration is to minimize disturbance to the citizen and contribute all together towards the safeguard[ing] of this unique city.

Chapter 4 - Literature Review

Bell, F.G. *Engineering Properties of Soil and Rocks* (Oxford: Butterworth-Heinemann, 1992)

In addition to information pertaining to soil properties and classification, this book describes grain structure in detail. Moreover, it relates grain structure and density to the capability of a soil to withstand various loads.

Bell, F.G. *Engineering Treatment of Soils* (London: E & FN Spon, 1993)

This book presents relevant information concerning basic classification and engineering properties of soil. The introductory chapter provides all the pertinent material, which is clearly organized in various tables and figures.

Brink, Partridge, and Williams, *Soil Survey for Engineering* (New York: Oxford University Press, 1982)

This manuscript discusses soil surveying as it relates to soil engineering. It also briefly outlines various methods of soil surveying and soil mapping techniques.

Kezdi, Arpad. *Handbook of Soil Mechanics: Soil Testing* (New York: Elsevier Scientific, 1980)

Soil testing techniques are described on an introductory level in this book. The first chapter provides basic soil extraction and investigation methods. Also, it describes the equipment used for the extraction. Further chapters relate to specific laboratory studies.

Rollings, Raymond S. *Geotechnical Materials in Construction* (New York: McGraw-Hill, 1996)

This book provides brief introductory information on soil properties. However, the main focus of the book is to examine various construction problems with geotechnical

materials. These problems are often related to the type of soil upon which the construction is done. Although the majority of the material presented is outside the scope of the project, future groups may find the information relevant.

Taylor, Donald W. *Fundamentals of Soil Mechanics* (New York: John Wiley & Sons, 1948)

Reasons for the study of soil mechanics are discussed in the introductory chapter of this book. The second chapter presents basic information on soil properties, and provides equations for calculating important quantities relating to soil properties.

Chapter 5 - Methodology

The goal of this project is to increase the efficiency with which soil information in Venice is obtained by computerizing soil test data provided by Insula S.p.A., and proposing a standard for the storage of such information. Data, initially available only in the form of paper reports, were organized and entered into a database. The relative heights of the soil samples were referenced to Venice's mareographic zero by using inverse distance weighting interpolation (see section 3.3.3). Once the database was complete, the locations of the sample sites were mapped using MapInfo. Finally, various techniques for constructing a three-dimensional representation of the soil layers of Venice using Vertical Mapper were explored.

5.1 Structures of Existing Soil Reports

Insula S.p.A. provided approximately 21 geotechnical reports completed by eight different companies (Geotecnica Veneta s.r.l./s.n.c., Vicenzetto s.r.l., Georicerche s.a.s., Sacchetto Perforazioni Geotechnica s.r.l., Geoservizi s.r.l., Geocomputer s.a.s., Effebi Costruzioni, and Soreco). The Comune di Venezia (city of Venice) put together a catalog of soil sample information but did not actually perform the soil testing. While the general methods that each company used to conduct testing are similar, the manner in which they organize and present the data obtained varies. The companies probably did not adopt a standard format because the reports were meant only to provide information about the soil at a certain location for a specific project at a given time. For the most part, the reports adhered to this general format:

- Cover pages
- Maps
- Soil core sample pages
- Penetrometric tests

The heterogeneity encountered in the reports was primarily a consequence of indexing and coding differences among companies. However, there were also differences in the formats used to present soil information. This can be seen in each of

the following sections, which discuss and provide examples of the basic structure of the soil reports.

5.1.1 Cover Pages

Information contained on the cover pages of the reports did not follow a standard format. Report date, company name, and locations of the soil tests were present on the covers of many reports. However, this basic information was not always included. Figure 4 and Figure 5 show two different cover page formats from two separate companies.

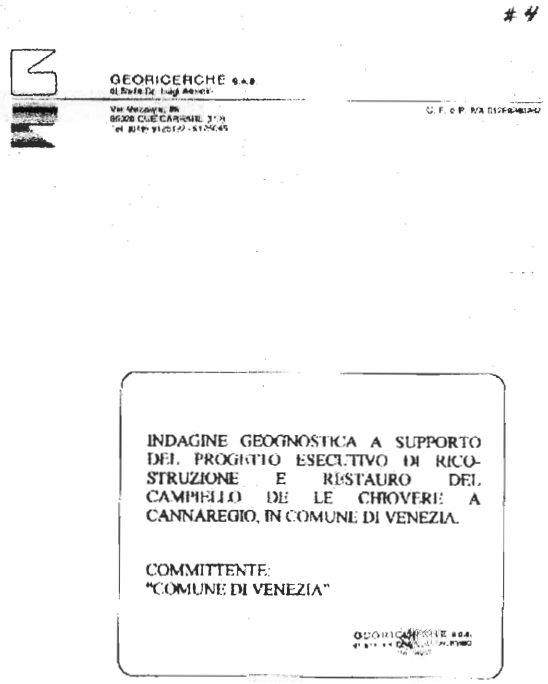

Figure 4: Georicerche report (GEORI-00)

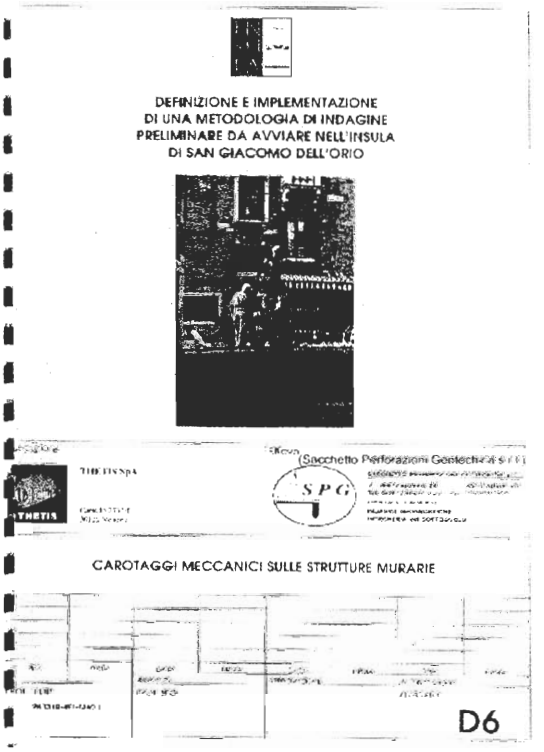

Figure 5: Sacchetto report (SACCH-01)

5.1.2 Maps of Soil Sample Locations

The maps varied considerably among reports, differing in scale, detail, accuracy and readability. Some were of such large scale that entire islands were shown on a standard page, while others were of such small scale that only a few buildings could be shown. Some maps contained street and canal names along with addresses. However,

several maps showed nothing more than the general shapes of buildings and landmarks. An example of such lacking detail is a report done by Geocomputer in which the mapped location is identified only by the name of the person who lived in the building nearest the project location. The accuracy of the maps also varied among reports. After comparing the report maps with a map generated by a GIS program it could be seen that many report maps contained errors such as incorrect addresses. Two types of maps commonly found throughout the soil reports are given below. Figure 6 is an example of a large-scale map, whereas Figure 7 represents a small-scale map.

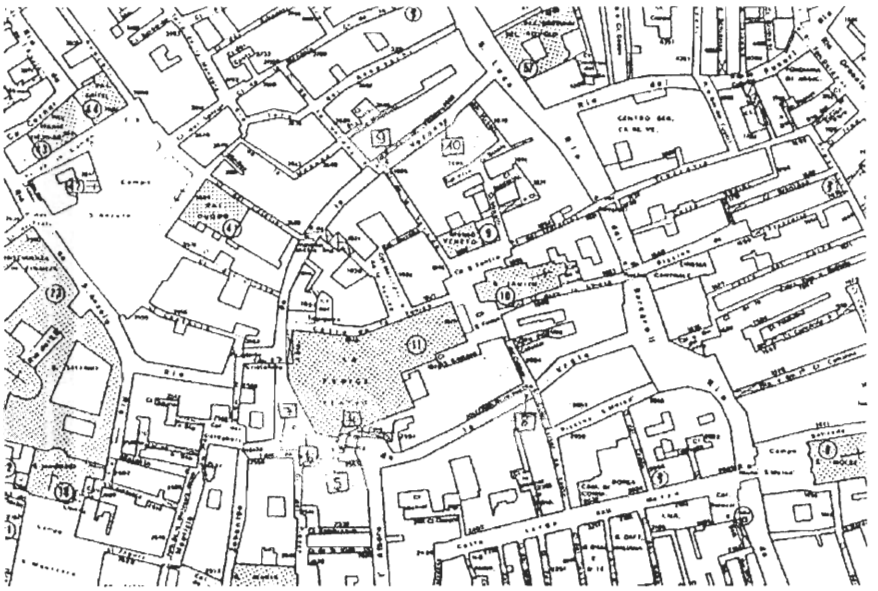

Figure 6: Large-scale report map showing sample locations

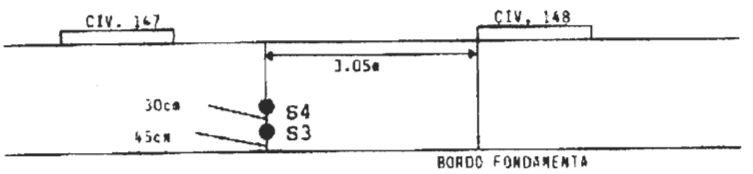

Figure 7: Small-scale report map showing sample locations

5.1.3 Core Samples

Pages containing information about soil core samples usually followed the map[s]. Soil core sample information was displayed on a diagram that indicated the depths of individual types of soil. The diagram consisted of different patterns that each corresponded to a certain type of soil (Figure 8). Detailed descriptions of the soil in specific layers were provided in a column next to the diagram. When samples were taken through canal walls or building foundations, their codes were often prefaced with a C, while the codes of samples that were taken elsewhere were often prefaced with an S. Samples not taken directly from the soil (those with codes prefaced by a C) had layers that should not be mapped as soil, for example layers of brick. Therefore, we found it prudent to make this distinction regardless of whether or not it appeared in the reports. Figure 8 represents the most common format used to present soil core sample information throughout the reports, while Figure 9 shows a less common method.

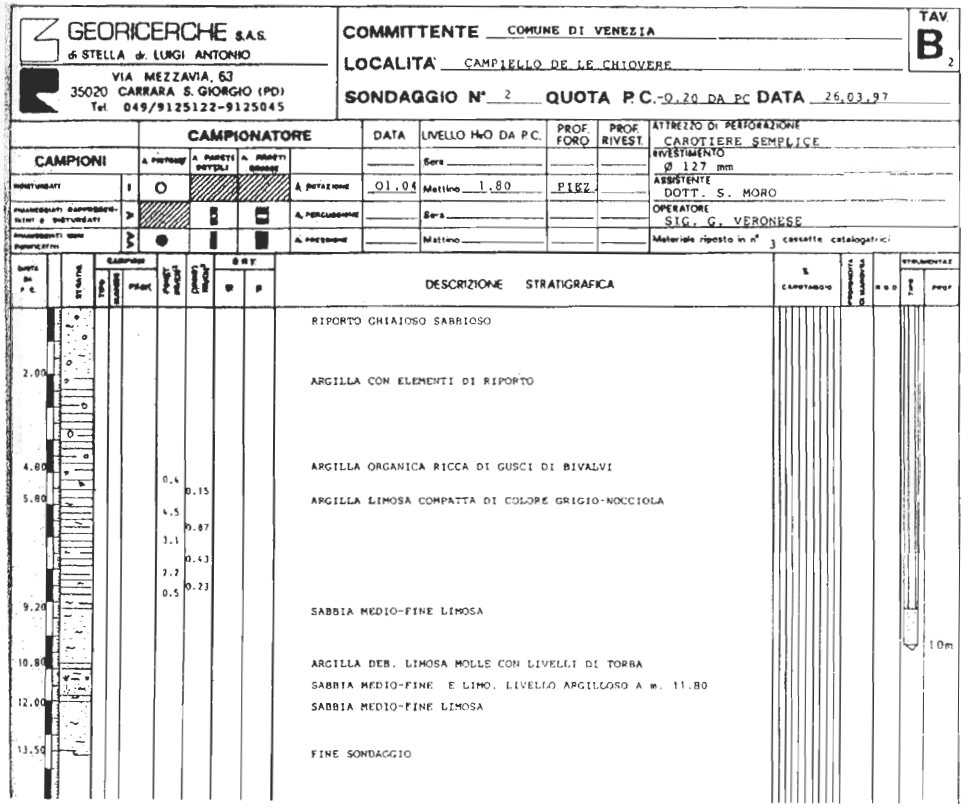

Figure 8: Common format for soil sample reports

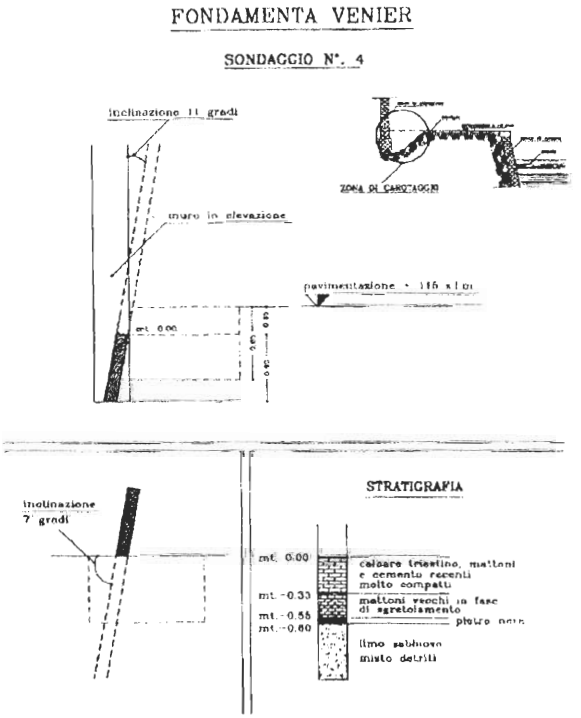

Figure 9: Less common format for soil sample reports

5.1.4 Penetrometric Tests

Placement of the penetrometric test data varied from report to report. They either directly followed the soil core sample pages or directly preceded them. These data were given in the form of graphs of resistance versus depth. Two examples of the types of penetrometric graphs that could be found in the reports are given in Figure 10 and Figure 11. Usually, there were two different types of resistance graphed, point and lateral, along with their ratio. Data tables containing the points on each penetrometric graph were rarely included.

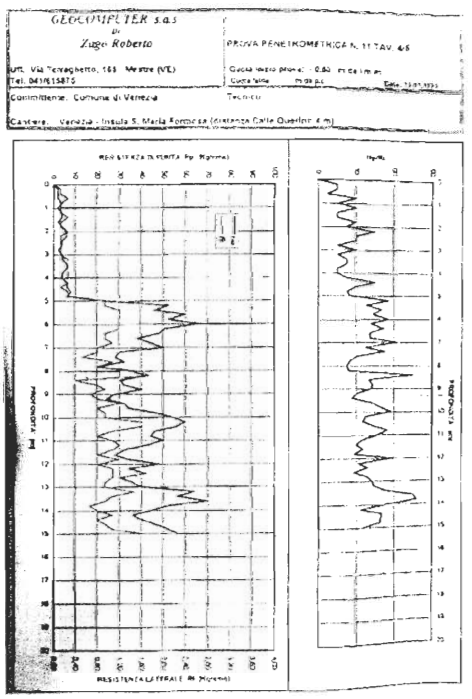

Figure 10: Penetrometric test results by Geocomputer

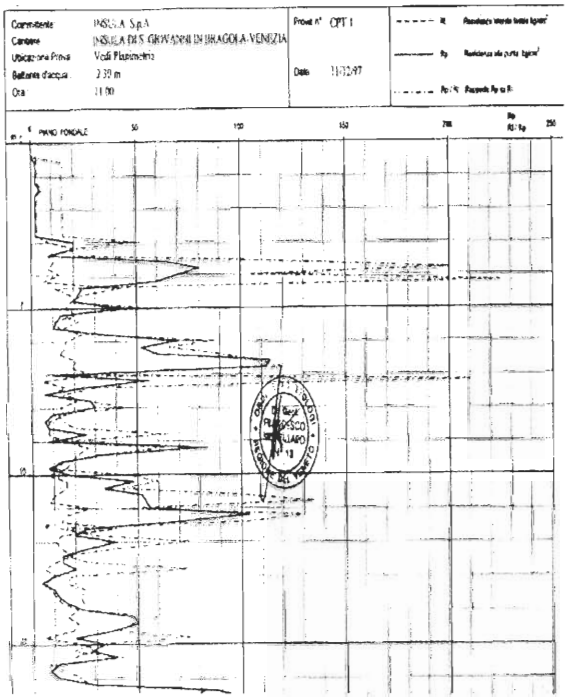

Figure 11: Penetrometric test results by Geotecnica Veneta

5.2 Computerization of Geotechnical Reports

This section describes the organization of data from the paper reports as well as the design of the database to contain that information. It was necessary to establish data categories that would allow for standardization of the sample data format, but were comprehensive enough to permit the effective computerization of the paper reports.

5.2.1 General Organization of the Database

The database is composed of three main tables, which include general information about reports, samples and penetrometric tests. Sub-tables relate multiple measurements to each sample or penetrometric test. Within the database, there are also mini-tables that relate text names to numerical codes. The primary purpose of these mini-tables is to allow linkage between the database and GIS layers in MapInfo. A diagram of the general structure of the database, excluding the mini-tables, appears in Figure 12. For purposes of clarity, all names of tables appear in **bold** and all names of fields are *italicized* throughout this paper.

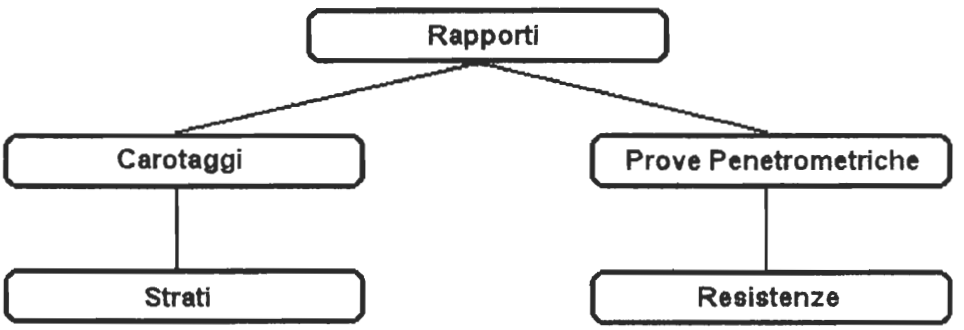

Figure 12: General structure of the database

It was necessary to establish a coding method for naming objects such as reports and samples. In order to relate information to these objects, each code had to be unique and meaningful in order to clarify what objects they represent. It would not be desirable, for example, to simply index objects using integers (objects 1,2, and 3) because the codes would have no meaning. However, it would be no more desirable to use 34 -character,

completely descriptive codes for the simple reasons that they would be confusing and hard to type. Therefore, the codes used in this project are short and concise.

5.2.2 Report Parameters

The parameters that characterized the reports are the following: the date when the report was completed, the general location at which the samples within the report were taken, and the organization that wrote the report. The organization that submitted the report to Insula S.p.A. did not necessarily conduct all the fieldwork described in it. An example of such an instance is the catalog of soil tests submitted to Insula by the Comune di Venezia. In such cases, the companies that performed the fieldwork were indicated in the database.

5.2.3 Core Sample and Penetrometric Information

General information relating to core samples was located at the top of each sample report page (see Figure 8). Much of this information was common to most reports. Categories such as type of equipment, operator, foreman, site, date, and the name of the company that commissioned the project occurred most frequently among reports. There were two ways to approach the organization of the sample information: include all categories of information present in any report regardless of their frequency among the reports, or focus only on information common to most reports. The former method was employed for purposes of completeness. The report pages for the penetrometric tests included the same general information, but do not list the operator or the overseer.

5.2.4 Information About Soil Layers

The most common types of soil described in the reports were sand, clay, lime, and combinations thereof. Information about trace elements of a certain type of soil in a given layer was included in the descriptions located next to the diagram described in section 0. The descriptions often included information relating to laboratory experiments that were conducted on specific parts of the core sample. The depths of each layer were measured with respect to the top of the sample, necessitating the conversion of the depths from a relative to an absolute scale. Without this conversion, the samples could not be

related to one another, making it impossible to compare the soil layers from one sample to those of another.

5.2.5 Categorizing and Representing Soil Types

A useful representation of the soil layers in Venice requires an accurate compilation of the main soil types that are present throughout the island. The keys for the patterns used to represent each type of soil served as the primary sources for establishing the soil categories to be included in the database. Standard AGI patterns were used in addition to four other soil type patterns commonly found throughout the reports. Figure 13 is an example of a typical pattern key. It comes from a Geotecnica Veneta report and differs only slightly from the standard AGI key.

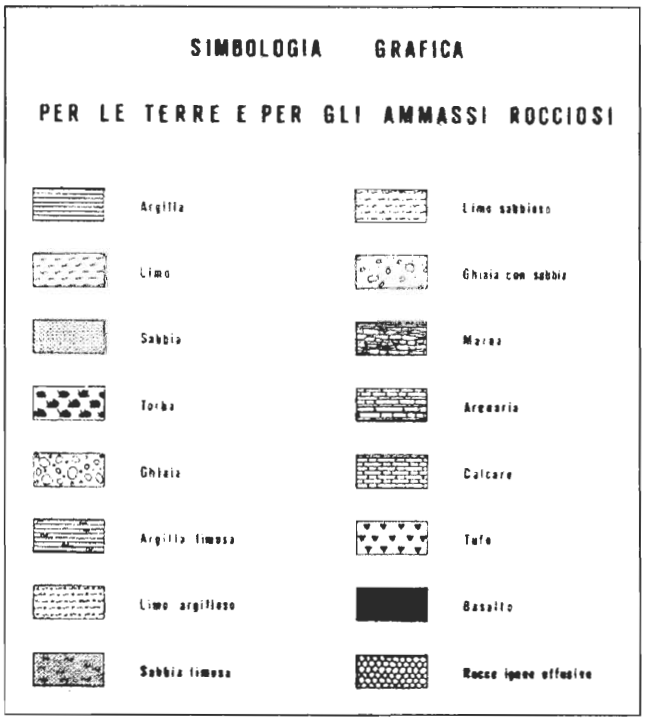

Figure 13: Typical pattern key for soil types

Recording of the layers in the **Strati** table followed the creation of the preliminary group of soil types. During this process, new soil types were added as needed; these were often combinations of soil types from the preliminary group.

A myriad of soil types in a given area would make any visual representation of the soil layers in that area cumbersome and ineffective. Consequently, it was desirable to minimize the number of records in the **Codici Suolo** table. There are 27 different entries in the table, of which 17 are for soil and the remainders are for materials such as wood, brick, and rock. The standard AGI key included 13 different soil types, which were all used in **Codici Suolo**. The four additional soil types, which were included because of their prevalence throughout the reports, are the following: argilla limosa, limo sabbioso, sabbia limosa, and limo argilloso.

5.3 Structure of Report Table (Rapporti)

Rapporti	
Field	**Description**
Codice Rapporto	Unique report code
Copertina del Rapporto	Hyperlink to an image of the report cover page
Codice Ditta	Unique code of the company that completed the report
Codice Committente	Unique code of the company that commissioned the project
Data	The date of the report
Codice Cantiere	The test site
Granda Mappa	Map of Venice showing samples in the report
Piccola Mappa	Detailed map of Venice showing sample locations and codes

Table 2: Fields within the **Rapporti** table

The codes representing each company consisted of only the first five letters of the company's name, since long codes are cumbersome, while island codes consist of four letters.[10] Both the *Codice Ditta* field and the *Codice Committente* field contain company codes.[11] The method for constructing each report code was to add a hyphen and two-digit sequencing number to the end of the five-character code of the company that completed the report.

Figure 14 illustrates the report coding mechanism used in the database. Microsoft Access does not allow month and year alone to be entered in a date/time field. Therefore, in circumstances where there was no recorded day for a report, the first day of the month was used in the *Data* field as a 'default'. This creates a small problem: there is no way to differentiate between default 1, and a 1 that is the actual date. This is not a significant problem since the relative unimportance of exact dates can be inferred from their absence within the reports themselves.

[10] If company codes were the same length as island codes, the potential would exist for creating a code that denoted both a company and an island.

[11] The organization that performed the work was always different from the organization that *commissioned* the project. However, note that both fields denote organizations. This was the reasoning behind the use of company codes for both fields.

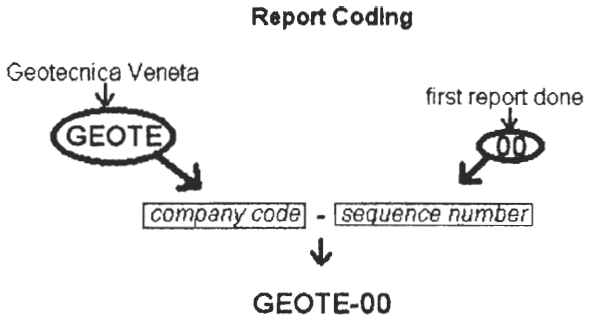

Figure 14: Report coding scheme

The *Granda Mappa* and *Piccola Mappa* fields contain maps to aid in test site location. These maps are automatically printed out in Microsoft Access reports. *Granda Mappa* shows all of Venice with only the soil core samples contained in the report. *Piccola Mappa* shows a detailed map, clearly indicating sample locations and codes. These maps are a great improvement upon the maps used in the existing soil reports, in accuracy as well as clarity.

5.4 Structure of Core Sample Table (Carotaggi)

Carotaggi	
Field	**Description**
Codice Carotaggio	Unique soil core sample code
Codice Rapporto	Unique code of report containing data for the sample
Codice Interno	Code of the sample within the report
Tipo di Carotaggio	Either 'C' or 'S' (see section 5.1.3)
Codice Ditta	Unique code of the company that performed the soil test
Data	Date of the soil test
Numer Civico	Civic number of the closest building to the test site
Codice Isola	Unique code of island where sample was taken
Codice Segmento	Unique code of canal segment where sample was taken
Riferita A	Reference point for exact location of soil test
Assistente	Overseer in the field
Operatore	Operator of the equipment
Tipo di Attrezzatura	Type of equipment
Profondità	Depth of the soil core
Quota	Elevation at sample site relative to Venice's mareographic zero

Table 3: Fields within the **Carotaggi** table

The *Codice Isola* field shows the code of the island on which the sample was taken. If the sample was taken in a canal, this field is left empty and the code of the canal segment where it was taken is entered in the *Codice Segmento* field, which is left empty if the sample was taken on an island. This separation allows for easy extraction of all sample data from canals, or all sample data from islands.

As with the reports, a coding system for the samples had to be developed. The four-character island codes were used as the first part of a seven-character sample code if the sample was taken on land. If the sample was taken in a canal, the canal segment code (four to six characters) was used. A dash and a two-digit sequencing number composed the second part of the code. The sequence number represents the order in which the samples were taken on a given island or canal. When the order could not be determined, the sequence number represents the order of presentation in the report (Figure 15).

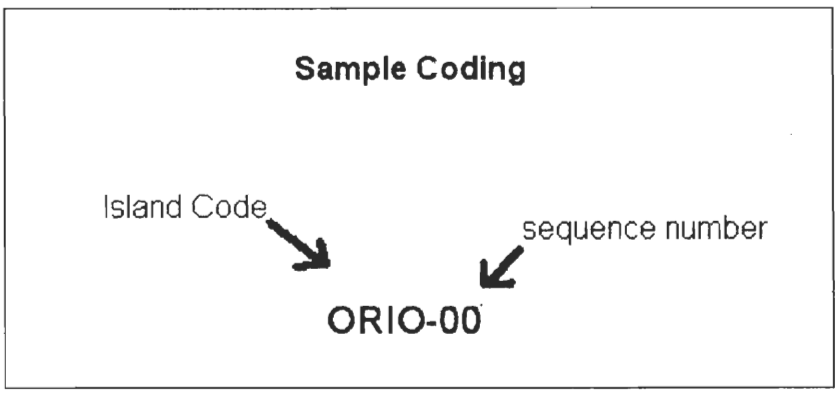

Figure 15: Sample coding scheme

5.5 Structure of Penetrometric Test Tables

There are three tables associated with the penetrometric tests included in the reports: **Codici Resistenza**, **Prove Penetrometriche** and **Resistenze**. **Codici Resistenza** associates a numerical code with each type resistance. **Prove Penetrometriche** lists the code for each penetrometric test, the report that contains the test, its date, its location, its absolute elevation and more general information. The fields containing these data are

shown in Table 4. Penetrometric tests were coded in the same manner as samples.[12] The **Resistenze** table contains all of the measurements for each penetrometric test; its fields are listed and described in Table 5.

Prove Penetrometriche	
Field	**Description**
Codice Prova	Unique code of the penetrometric test
Codice Rapporto	Unique code of the report containing the data for the test
Codice Interno	Code of the test within the report
Codice Ditta	Unique code of the company that performed the penetrometric test
Data	Date of the test
Numero Civico	Civic number of the closest building to the test site
Codice Isola	Unique code of the island on which the test was performed
Codice Segmento	Unique code of the canal segment in which the test was performed
Riferita A	Reference point for exact location of test
Quota	Elevation at the test site with respect to Venice's mareographic zero

Table 4: Fields within the **Prove Penetrometriche** table

Resistenze	
Field	**Description**
Codice Prova	Unique code of the penetrometric test
Profondità	Depth
Codice Resistenza	Code of the type of resistance being measured
Misura	Value measured

Table 5: Fields within the **Resistenze** table

[12] Since canal segment codes can exceed four characters, a penetrometric test conducted in a canal can potentially have a code that consists of more than nine characters.

5.6 Table of Soil Layers (Strati)

Strati	
Field	**Description**
Codice Carotaggio	Unique code of soil core sample
Profondità	Depth
Spessore	Thickness of soil layer
Codice Suolo	Numerical code for the type of soil

Table 6: Fields within **Strati** table

The **Strati** table shows the layers of soil for each sample. The table consists of four fields: *Codice Carotaggio, Profondità, Spessore,* and *Codice Suolo*. The *Codice Carotaggio* field contains the soil sample codes. It is important to note that each sample code is repeated for each layer in the sample. The depths recorded in the *Profondità* field are taken directly from the diagrams in the reports, along with the thickness of each layer which is recorded in the *Spessore* field. The code for the type of soil that occurs at a layer is recorded in the *Codice Suolo* field.

5.7 Mapping of Sample Locations

In this section, the procedure used to map the locations of the soil core samples is discussed. The viability of creating a three-dimensional map of the soil layers in Venice using Vertical Mapper is also explored.

5.7.1 Mapping Methods

A two-dimensional map was created to show the locations of the soil samples that have been taken. The locations of the soil samples were determined using the maps that were included in each report. Samples taken from canal walls or building foundations were represented with a triangle on the two-dimensional map, whereas squares correspond to those taken directly in the soil (see section 5.1.3).

The level of accuracy attained with respect to the placement of the square and triangular symbols largely depended on the accuracy of the original maps within the reports. In several cases, a distance scale giving the samples' locations with respect to a building or other objects was included. When present, these scales were used to plot the

symbols representing each sample. Visual estimation was used to place the symbols on the map when scales were not included in the paper reports (see Figure 16).

Each triangular and square symbol was tagged with the corresponding sample code, thus enabling it to be linked to the database. Once this link was created, any table in the database could be viewed from MapInfo by opening a new browser window, essentially allowing the data to be examined visually.

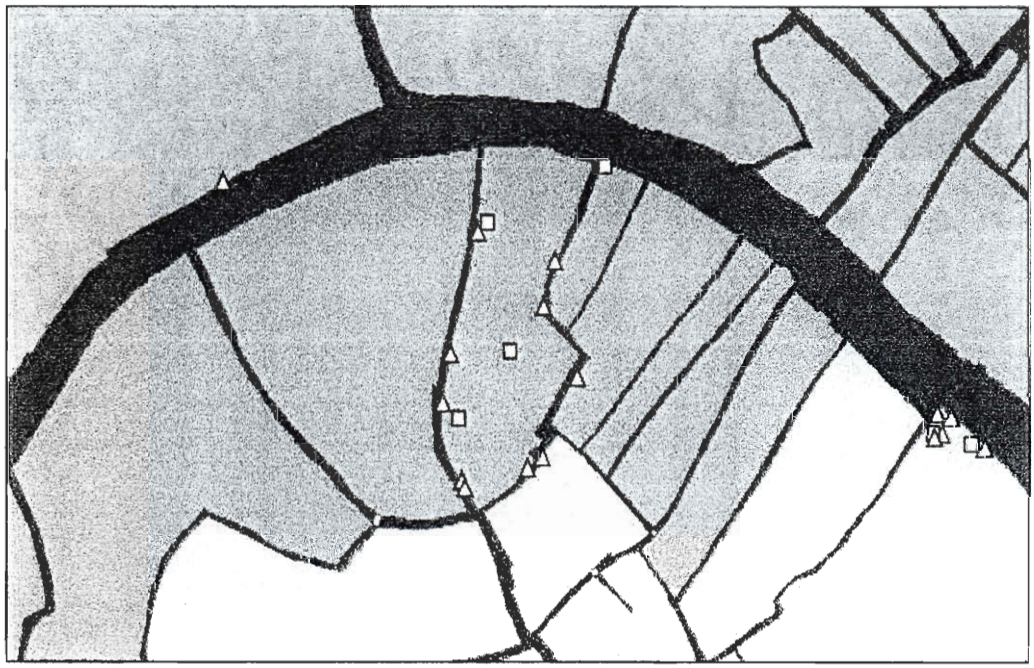

Figure 16: Map of soil test locations

5.7.2 Sample elevations with respect to the mareographic zero

There are currently in excess of 140,000 points of known elevation in Venice. These points were used to obtain the elevations of the tops of each soil sample with respect to the city's mareographic (absolute) zero through interpolation. After the absolute heights of the samples were determined, soil trends throughout Venice as a whole were studied. Vertical mapper, an add-on to MapInfo, was used to complete this interpolation.

Vertical Mapper can apply several different types of interpolation. Among these are "inverse distance weighting", "triangulation with smoothing", "nearest neighbor", and "rectangular interpolation". Since the points of known elevation are scattered all over the city, inverse distance weighting (IDW) was used to interpolate (see section 3.3.3). This technique involves averaging known data in a specified region to obtain values at a given

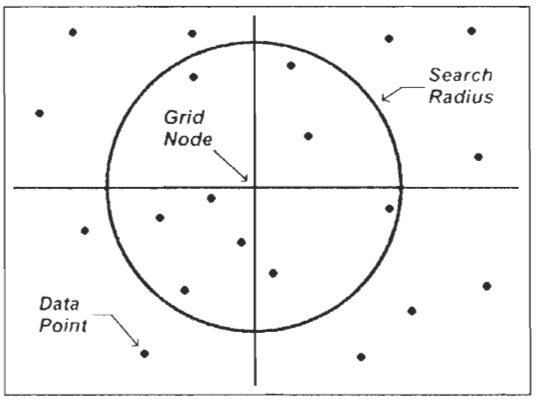

Figure 17: Inverse Distance Weighted (IDW) interpolation

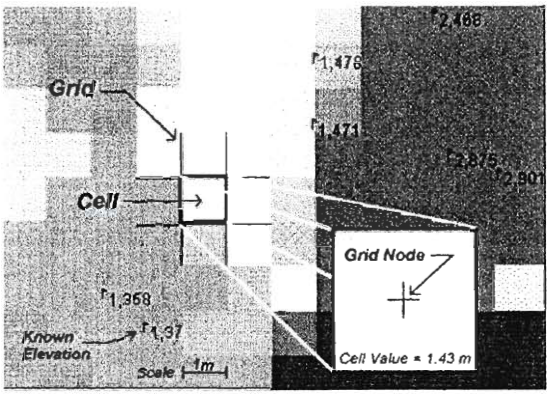

Figure 18: Vertical Mapper grid created by IDW interpolation

point. The further away the known data is from the point in question, the less that data is weighted (considered) in the average. The criteria to be specified were the radius extending from the points of unknown elevation and the weighting exponent. The weighting exponent determined how much the known elevations were weighted when averaged to obtain the height of the unknown point (the greater the exponent, the less the importance given to data further away). The value for this exponent was chosen to be 4, and the search radius was 5 m. The inverse distance weighted (IDW) interpolation procedure used in this project is illustrated in Figure 17. The grid node represents the unknown elevation, while the small dots denote known values. The height of the node is obtained by taking the weighted average of the known points within the search radius.

Figure 18 shows a zoomed in view of the final interpolated grid as it appears in Vertical Mapper. The different colored "cells", which comprise the grid, each contain an interpolated elevation, represented by different colors. The resulting map can now be used to obtain an approximate elevation of any point in Venice.

5.7.3 Three-Dimensional Mapping

Once all the soil sample layers had been entered into the database (Sec. 5.6) and sample elevations were interpolated (Sec. 5.7.1), the possibility of creating a three-dimensional map of the soil layers was explored. Interpolation of the layers of soil between test sites would provide a comprehensible graphical representation of the rather abstract soil sample data in the database. More importantly, the 3-D map would illustrate the soil layers under buildings and other places where samples cannot be taken. The composition of soil layers under buildings is most important, since it dictates the structure of the foundation. In Venice, it also determines how deep the wood pilings that the foundation rests upon must be set into to the ground.

Three-dimensional mapping of soil is a complex task in which there are many difficulties to overcome. One of the main problems is finding a software package that will create three-dimensional layers. Vertical Mapper is an add-on program that works with MapInfo to create three-dimensional contour maps. The capabilities and limitations of Vertical Mapper with respect to three-dimensional representation were explored.

Chapter 6 - Results and Analysis

6.1 Database Organization

Database results are discussed in the following sections. Information relating to companies, samples, sample layers, and penetrometric tests are given. Graphs and charts are used to represent much of the data visually.

6.1.1 Companies

Every soil sample and penetrometric test was conducted by one of nine companies. Figure 19 and Figure 20 show the percentages of samples and penetrometric tests for which each of these companies is responsible. Committenti are companies or organizations which hired those companies that performed the actual sampling and/or penetrometric testing. Figure 21 shows the percentage of contracts that each of these organizations made, based on the reports given by Insula.

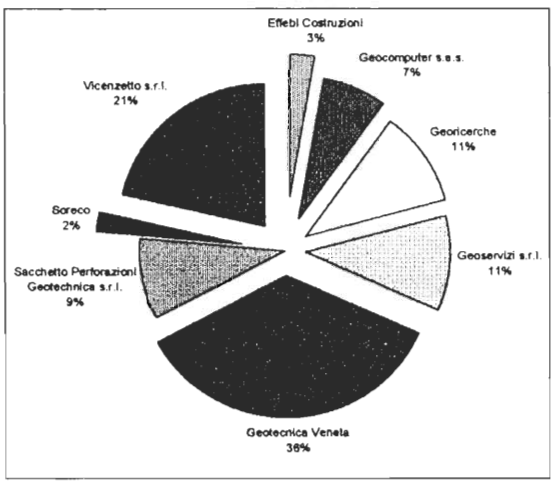

Figure 19: Percentage of samples completed by each company

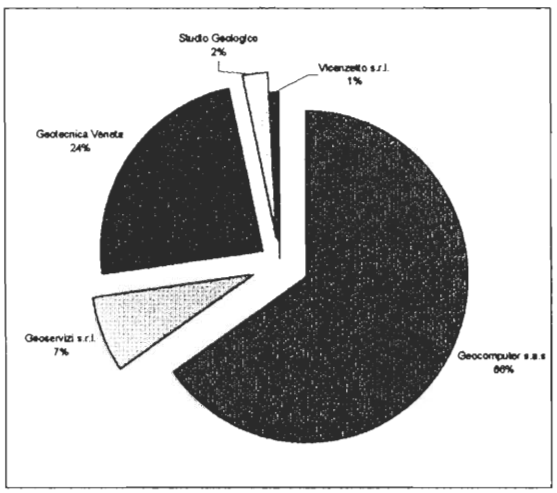

Figure 20 Percentage of penetrometric tests completed by each company

Geotecnica Veneta is responsible for most of the soil samples taken throughout the reports that Insula possesses (36%), while Geocomputer s.a.s conducted most of the penetrometric tests (66%). Insula S.p.A. and Comune di Venezia comprise the majority of organizations that contracted out for soil sampling and/or penetrometric tests (35% and

41% respectively). It is important to emphasize that not all soil testing results (sample and penetrometric) conducted in Venice were available to Insula. As a consequence, the values obtained here and in subsequent sections of this chapter may not be entirely accurate

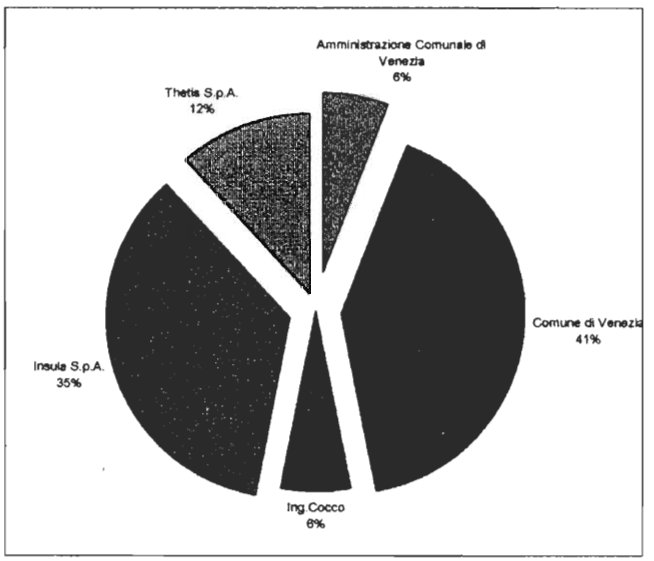

Figure 21: Percentage of contracts made by each contractor

6.1.2 Reports

The **Rapporti** table contains twenty-one records, each corresponding to a report provided by Insula. It is important to note that Insula provided several reports that were completed for islands outside of Venice as well as reports that either did not contain sample data or were not readable. Such reports were not included in the database. The twenty one reports that were cataloged varied in the quantity of sample and penetrometric test information that they contained. The report that had the most soil samples (46) and penetrometric tests (73) was actually a catalog put together by Comune di Venezia that contained the results of sample tests from other reports. The number of samples and penetrometric tests contained in a typical report ranges from five to ten. Of the reports given by Insula, the most recent was completed in April 1999 while the oldest was completed in July 1992.

6.1.3 Soil Samples

The **Carotaggi** table contains the results from all the soil samples described in the reports. The total number of samples is 149, 42% of which are taken in canal walls or building foundations (see section 0). Geotecnica Veneta took the most samples (53). The oldest sample is dated February 1986. While this date may seem to conflict with the oldest report (1992), it does not, for the catalog by Comune di Venezia contains sample information from a variety of reports, which were not provided in their entirety. The total depths vary considerably; however, most are five meters deep as shown in Figure 22.

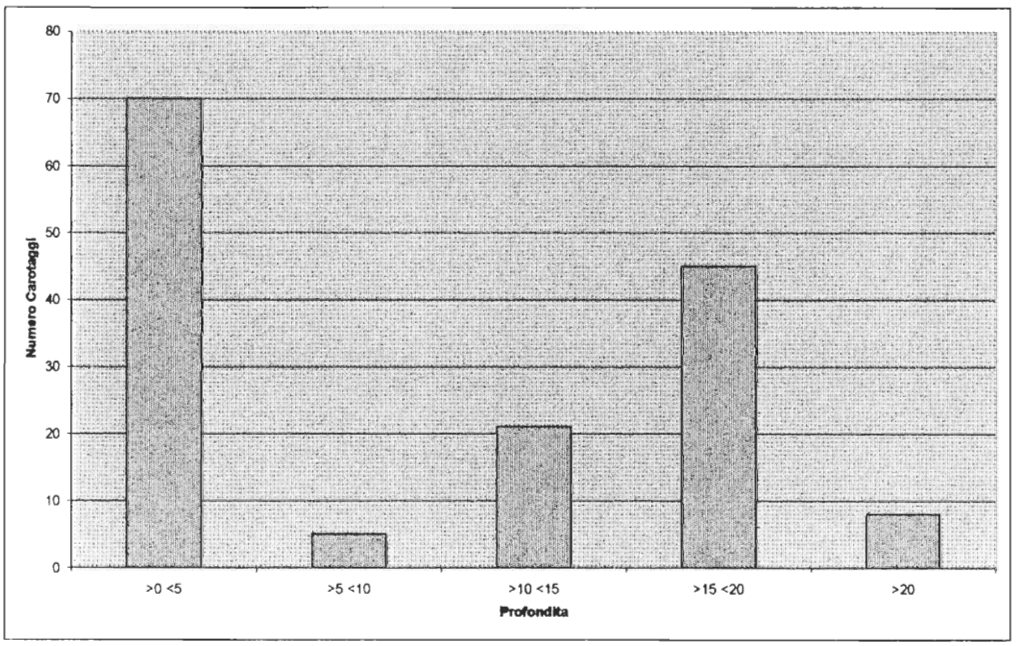

Figure 22: Number of soil samples taken between various depths

6.1.4 Penetrometric Tests

Prove Penetrometriche lists all the penetrometric tests included in the reports provided by Insula. There are a total of 121 penetrometric tests, 66% of which are located in canal segments. Geocomputer s.a.s. performed the majority of these tests (79). Five tests do not have dates, but of the ones that do, the oldest was performed in July 1988 and the most recent in June, 1999. The **Resistenze** table, which is designed to contain the resistance values from each test, currently lists those for only one report (22

penetrometric tests). This particular report is the only one that listed all the data points for each test that it contained. An example of a penetrometric graph that can be generated from the database appears in Figure 23. Data points from future tests can be entered directly into the table, from which resistance versus depth graphs can be produced.

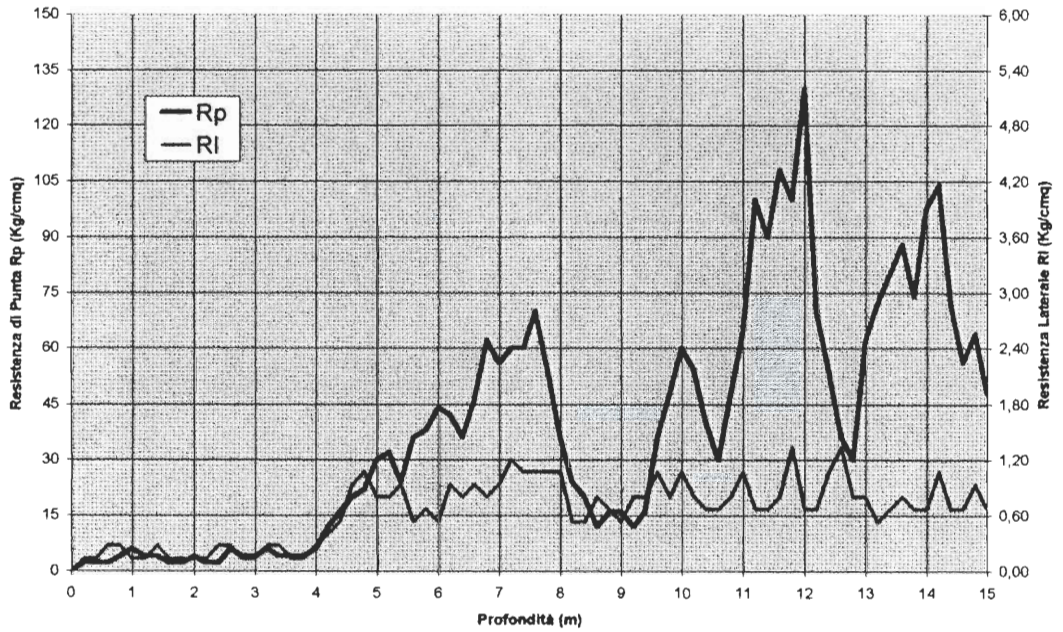

Figure 23: Penetrometric graph for sample MISE-00 (generated from database)

6.2 Elevations of Samples

As discussed in section 5.7.2 it was necessary to obtain the elevations of the tops of the soil samples with respect to Venice's mareographic (absolute) zero in order to conduct soil analysis on the city as a whole.

140,000+ points of known elevation were used to interpolate the unknown heights of the soil samples. To test the accuracy of the interpolated data, 100 points of known elevation were transferred to a separate map. The interpolation was then run again without those known elevations to obtain heights for the transferred points. These heights were compared to the original ones to judge the accuracy of the interpolation. Figure 24 shows the percentage of points from this test set that corresponded to each amount of error. An error of less than one centimeter was considered to be exceptional,

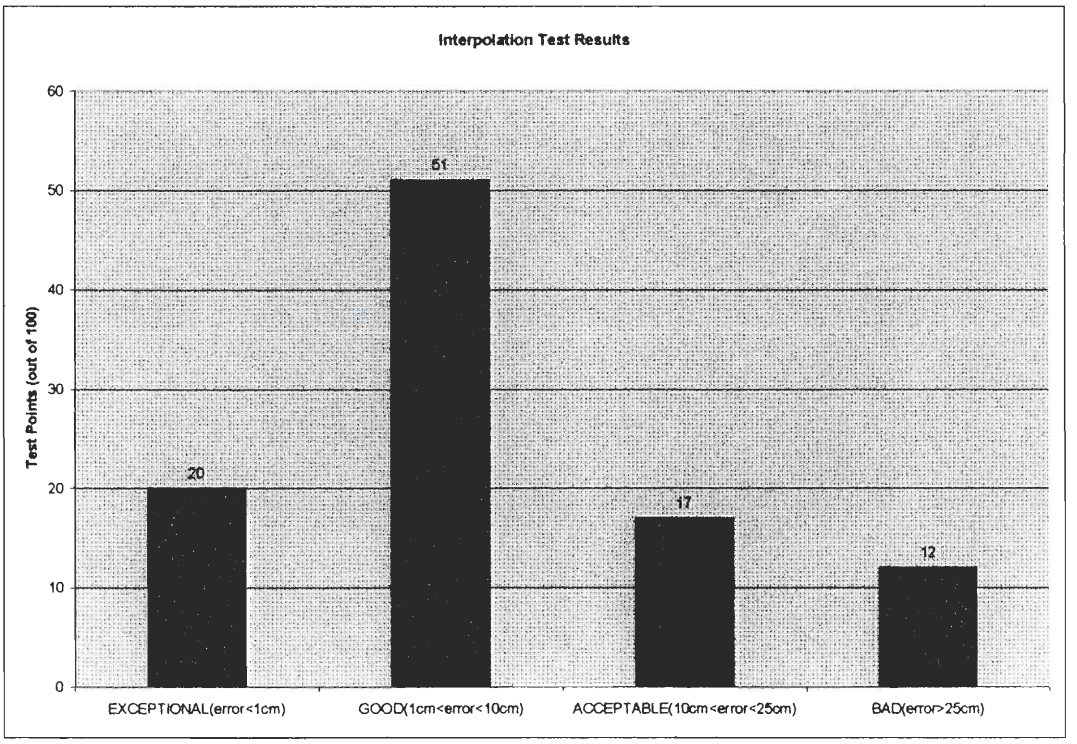

Figure 24: Interpolation test results

and anything between one and ten centimeters was deemed good. These two categories account for 71% of the test points, indicating that the interpolation was generally accurate.

6.3 Soil Composition

The average soil composition of each sestieri and Venice based on the data provide by Insula is given in this section. The purpose of analyzing each sestieri was to find trends relating to the types of soils prevalent throughout Venice and their depths. Finally, locations where samples were relatively close to one another (< 15 m apart) were examined in an attempt to ascertain the order of degree to which soil layers remains

unchanged in those locations. Analyses that may seem to be lacking in this section are contained in the following section (6.4) which deals with mapping, as these analyses are more easily completed and discussed with the aid of maps.

6.3.1 Tools for Analysis

In this project, 'soil composition' was taken to mean the amounts of each type of soil in an area and their depths. High-low graphs and pie charts were constructed to show the depth ranges at which each soil type occurred and its percentages of occurrence in a certain location, respectively. High-low graphs were particularly useful to display the mean depth for a certain type of soil at a given location together with its variability.

6.3.2 Soil Composition of Venice

Figure 25 shows that sabbia fine, argilla, argilla limosa, and limo argilloso are the most prevalent types of soils in Venice (24%,18%,15%,11%, respectively). The remaining 32% of the soil is divided fairly evenly among limo, sabbia, sabbia e ghiaia, sabbia limosa, limo sabbioso, and terreno di riporto. Figure 26 shows the depth ranges for each soil type mentioned above. It can be seen that sabbia fine is usually located about 11 m below the mareaographic zero, while argilla, argilla limosa, and limo argilloso have an average depth of 9 m, 8 m, and 9 m below the zero.

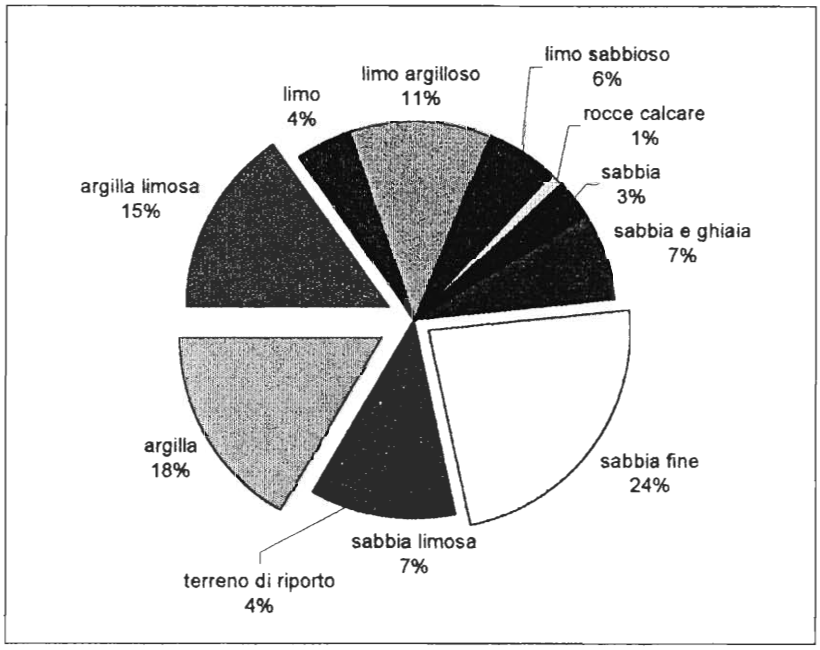

Figure 25: Soil distribution throughout Venice

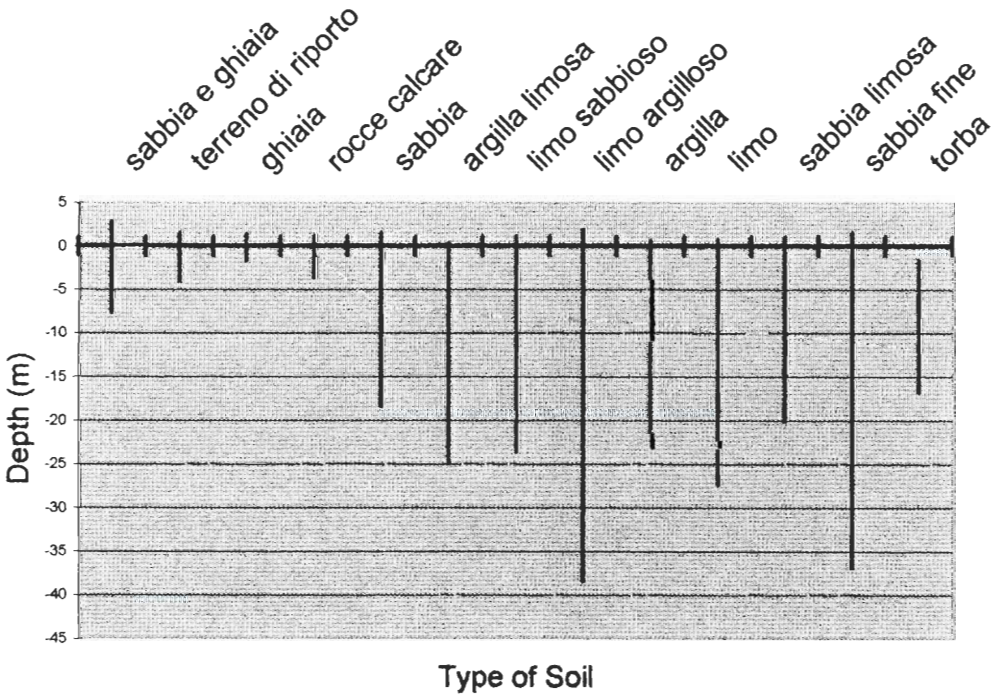

Figure 26: Highs, lows, and mean depths for soil types in Venice

It is important to realize that the reliability of the average depths shown in Figure 26 depends on the variation of depths for each soil. For example, since ghiaia does not occur over an extremely large range of depths, it is more likely to only be present at its mean depth. Conversely, limo argilloso is present over a wide range, making its depth less consistent.

6.3.3 Analyzing the Variability of soil proportions and depths

The feasibility of three-dimensional layer modeling can be determined by comparing the soil make-up of the areas being considered. The two aspects used to make this comparison in this section and subsequent sections are the proportions and mean depths for each soil type. The four soils types that were used in this analysis were chosen because they seemed to occur in greater amounts in each sample relative to the other soil types in that sample. However, the actual amount of each soil type still varies among samples in many cases as shown in Figure 27, which gives the percentages of each type of soil in each sestieri.

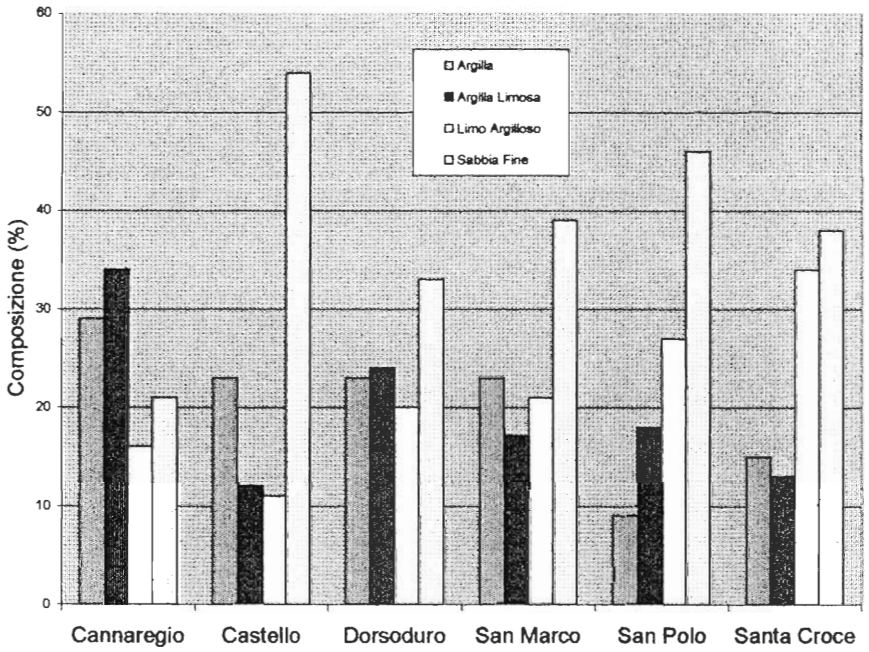

Figure 27: Percentage of each main soil type by sestieri

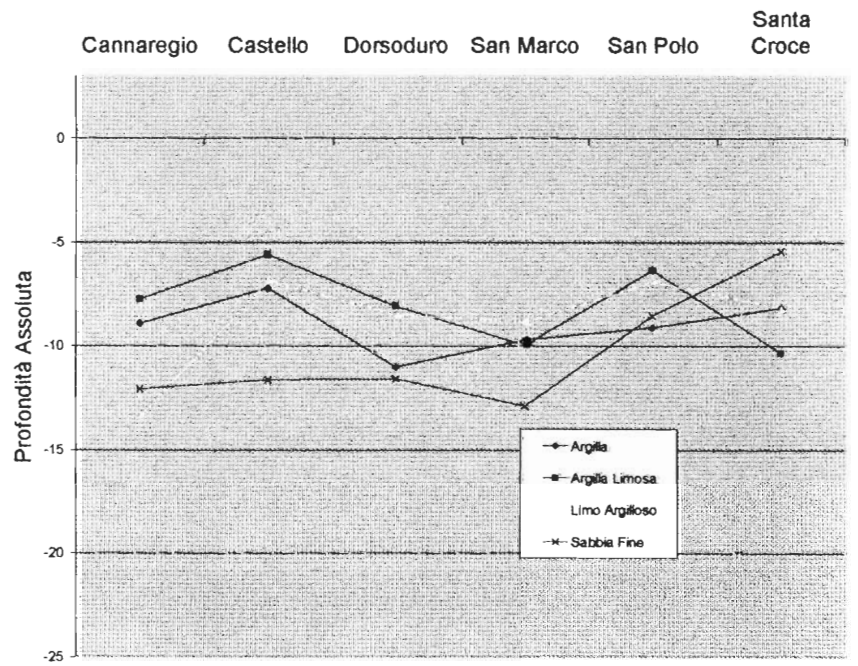

Figure 28: Mean elevations of each soil type at the five select locations

The percentages of soil types were calculated based on the thicknesses of each soil layer in the samples. Therefore, significant variation means that the thickness of a soil layer changes considerably. It is possible that despite this change, mean elevations of layers are consistent. Figure 28 shows the mean elevations for each of the four soil types in the five sestieri. Straight lines would indicate constant elevations. Sabbia fine, for example, is relatively consistent among Cannaregio, Castello, and Dorsorduro. The remaining three soil types fluctuate considerably.

6.3.4 Soil Composition for Samples in Close Proximity

Many of the soil sample sites included in the database are located rather close to other sites, raising the question of whether or not they were needed. If soil layers do not change appreciably over very small distances, then multiple samples in the same location are not necessary. Instead, soil stratification in those areas could be accurately estimated by interpolation. To determine how similar 'close samples' are, and to demonstrate a procedure that can be used in determining the viability of layer interpolation and representation in an area, some groups of samples lying close together were analyzed.

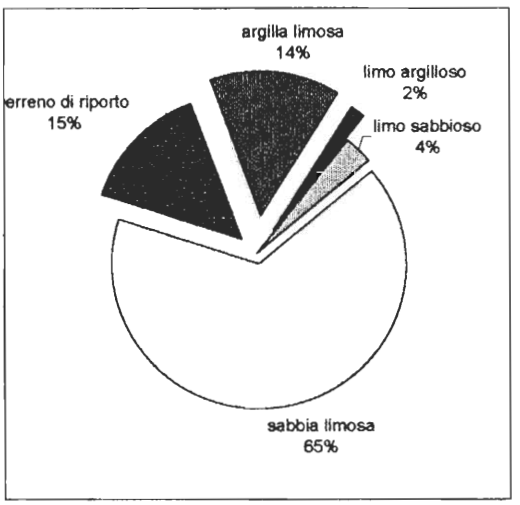

Figure 29 Soil distribution for FRAR-00

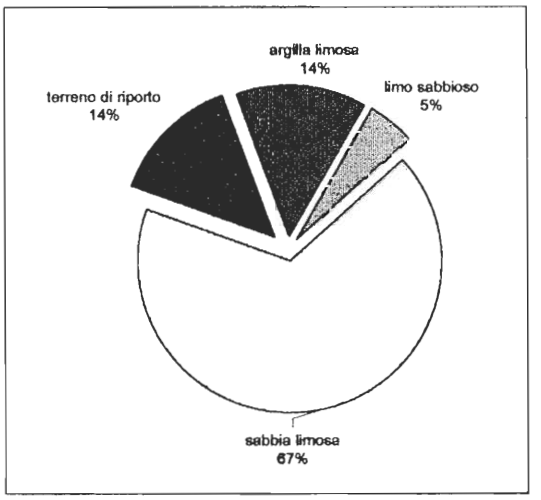

Figure 30: Soil distribution for FRAR-01

FRAR-00 and FRAR-01 are two samples that were taken on the southeastern part of the island Frari in San Polo in January 1995 by Geocomputer s.a.s. Neither of these samples was taken in a canal wall or building foundation, and they are approximately 2 m

apart. These two factors make them ideal for a 'close sample comparison.'[13] Figure 29 and Figure 30 show the soil composition for FRAR-00 and FRAR-01, respectively.

Strong correlations exist between the type of soil in each sample as well as their relative amounts. The only discrepancy is related to limo argilloso, which occurs in FRAR-00, but not in FRAR-01. However, this is not a significant discrepancy because the thickness of the layer of limo argilloso in the first sample is relatively small (0.3 m). The mean elevations of the soil layers were studied after soil composition was analyzed. Figure 31 shows the mean elevation for each soil layer for each of the two samples. The presence of nearly straight line indicates strong consistency between the soil elevations for the samples.

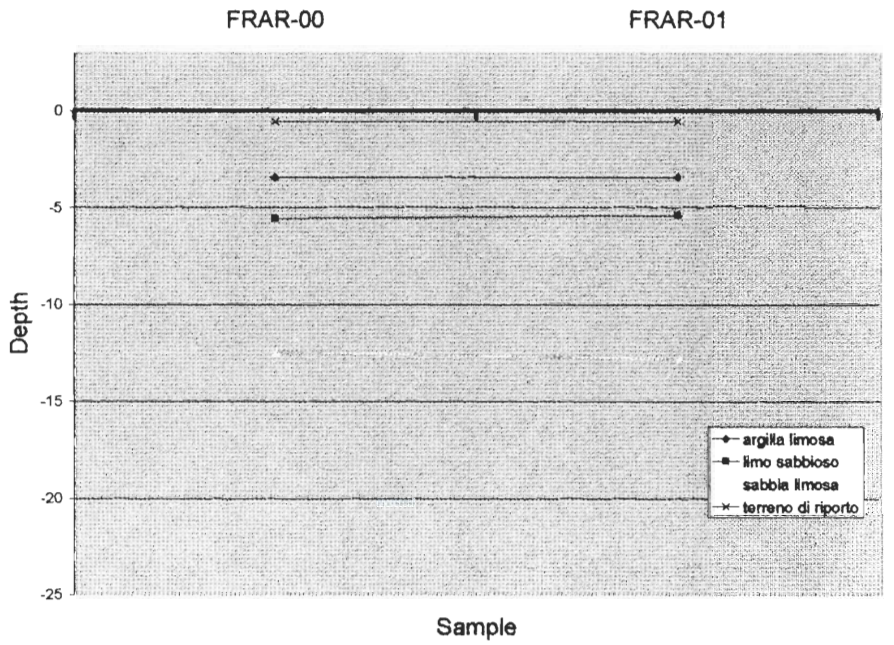

Figure 31: Mean soil layer depths for samples FRAR-00 and FRAR-01

[13] A large part of the composition of many samples taken in canal walls or building foundations is brick, rock and concrete, Consequently, it is harder to compare soil types using these types of samples.

After comparing the soil characteristics of two samples taken very close together, the analysis was extended to a slightly bigger group of samples located in a larger area. RAGU-01 through 05 are five samples that were taken on the island Ragusei located in the northern part of Dorsorduro. Like the two samples discussed at the beginning of this section, none of these five were taken in canal walls or building foundations. The samples lie on a line, and are shown in Figure 32. The total distance that the samples span is approximately 21 m, and the distance between two consecutive samples ranges from 4.5 – 6 m.

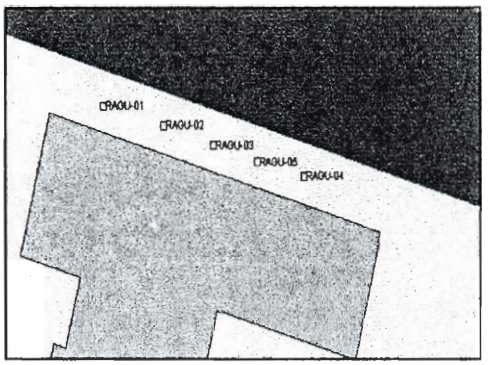

Figure 32: Closely located sample locations

The process for determining the similarities between these samples was the same as that for the first two samples discussed in this section. Figure 33 shows the amounts of each type of soil for each sample. RAGU-01 and RAGU-02 (6 m apart) have similar soil make-ups; however , the remainders of the samples in this group differ in their soil composition. The differences in the amounts of soil present at these sites may not discredit the idea of continuity of soil layers between locations that are 5 to 20 m apart, because the mean elevations of these layers can still be relatively close to one another. Soil layers between FRAR-00 and FRAR-01 essentially represented the 'best of both worlds' in that the types and amounts of each soil as well as their mean elevations were similar.

The key criteria for the existence continuous layers between sample sites are having the same types of soil and relatively consistent mean elevations (no sharp jumps in depth). Having the same amounts of soils is an added benefit, but may not necessarily be essential. To test this theory, the mean elevations for the RAGU group were studied. Figure 34 shows the mean elevation for the types of soil in the samples. There are some intervals of fairly consistent depths; however, others appear to be inconsistent. More importantly, the layers often intersect, which would present problems when trying to accurately interpolate.

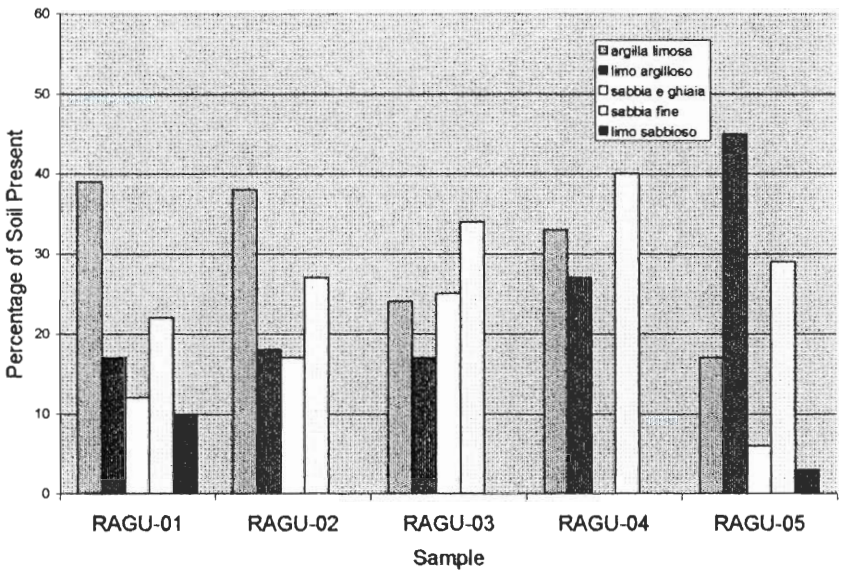

Figure 33: Percentage of each soil type for RAGU series

The analysis of the two samples on Frari lends credence to the idea that soil types and depths are fairly static over small distances, and can be mapped. The results from the RAGU group show that layer interpolation among locations 5 to 20 m apart may not be

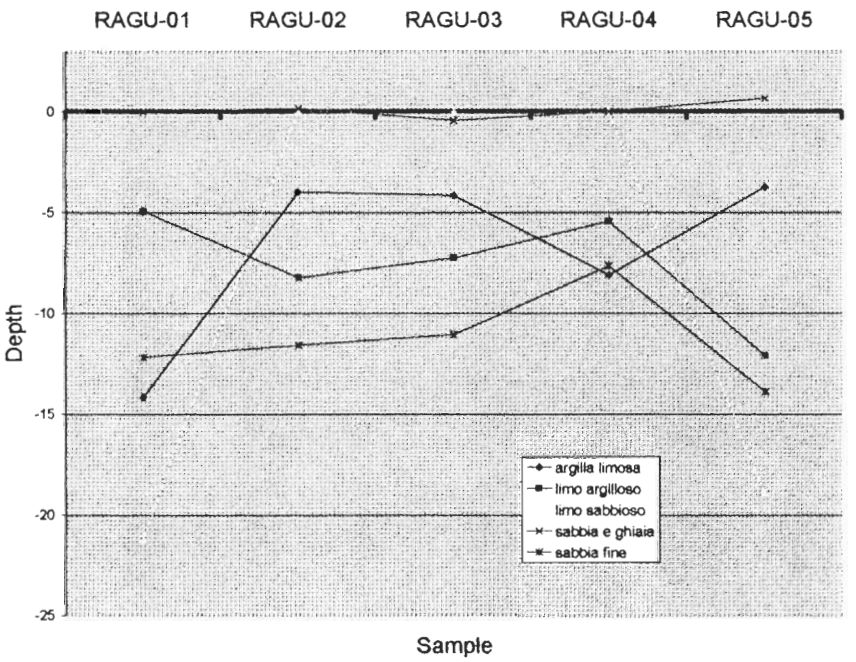

Figure 34: Mean elevations for layers in the RAGU series

as feasible. More data is required to establish criteria to apply test information from one location to another.

It is important to note that the determination of whether or not layer interpolation is suitable should be made on a location by location basis, since it is possible for soil to change drastically, particularly between locations that are greater than 20 m apart. Essentially, the information in the database can still be applied to other locations depending on the situation. The requirements of a maintenance operation determine what existing test sites sufficiently approximate the soil characteristics in the area, if any. In an operation requiring basic soil knowledge, data from a site near the location being studied may be a sufficient estimate of the characteristics at the project site. However, certain operations may demand higher accuracy in which case testing would be required no matter how close the nearest existing test site. Yet another possibility is that the information contained in the database about a specific location may provide enough knowledge of the surrounding soil to decrease the necessary complexity of any additional tests. For example, an engineer might find that he or she has enough information to justify conducting a cheaper penetrometric test rather than taking a more expensive direct soil sample. The database and maps should be used in conjunction with specific project requirements when deciding if preexisting data can provide an adequate representation of the soil at a given location.

6.4 Spatial Results and Analysis

MapInfo is a computer-mapping program that allowed much of the data contained in the database to be represented graphically. The first map that was created shows the locations of the soil samples and penetrometric tests. Many useful thematic maps were constructed from the data contained on the sample and penetrometric map and from the database. Thematic maps show trends among data graphically, and are invaluable tools for analysis.

6.4.1 Sample and Penetrometric Test Locations

Figure 35 shows all of the test locations that were contained in the reports provide by Insula. Squares and triangles denote soil samples, while circles indicate penetrometric tests (see section 5.1.3). It is immediately obvious that most of the samples and

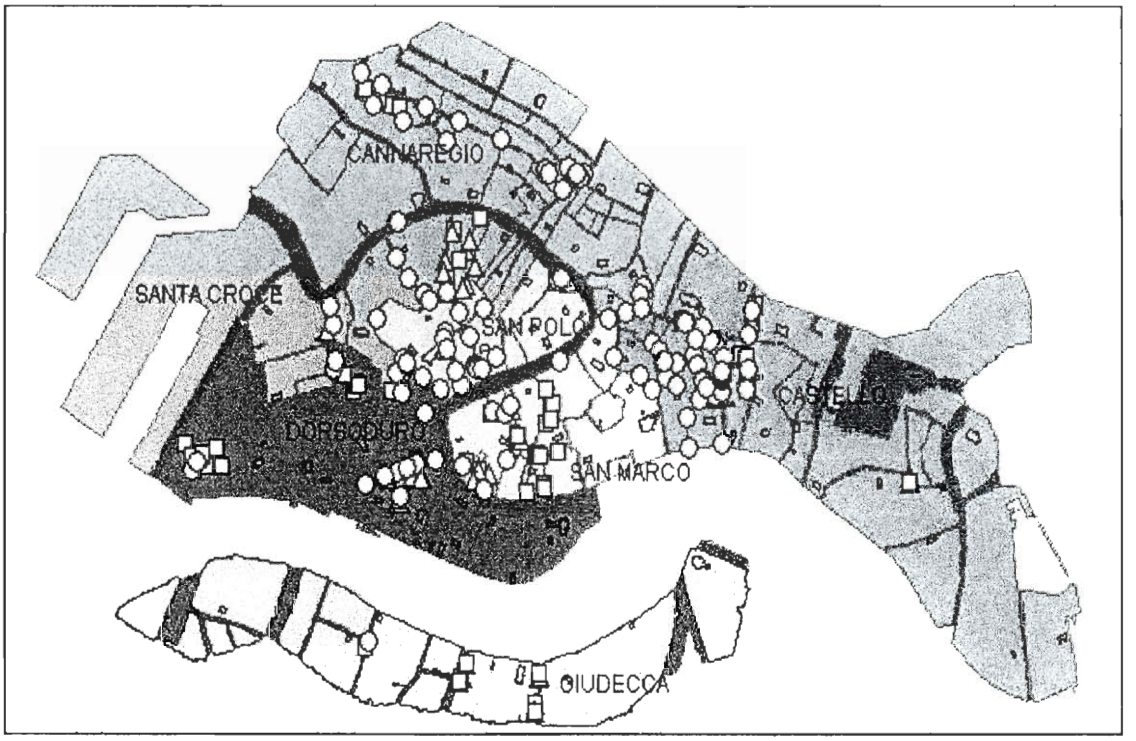

Figure 35: Locations of all soil tests from the reports provided by Insula

penetrometric tests appear in clusters. Soil tests (meaning samples and pentrometric tests) on the outer most islands of the city are very rare, appearing only on Santa Marta, which is located in the far southwestern part of Dorsoduro. Castello is void of soil tests, only having some in a cluster in the center of the northwestern region of the sestiere. Most of the penetrometric tests are located in canals, while most samples were taken from islands. This is probably due to the fact that penetrometric tests would be easier to conduct in canals, whereas direct sampling would be difficult to carry out in the water (see section 3.2.1). Most of the tests conducted (samples and penetrometric) were done so in close vicinity to canals, indicating more canal maintenance. Thematic maps, which show data spatially, were created using MapInfo. The first such map is pictured in Figure 36 and shows the amount of soil samples (not penetrometric tests) per square kilometer

per island. The islands that have darker shades of blue have a greater number of samples per unit area.

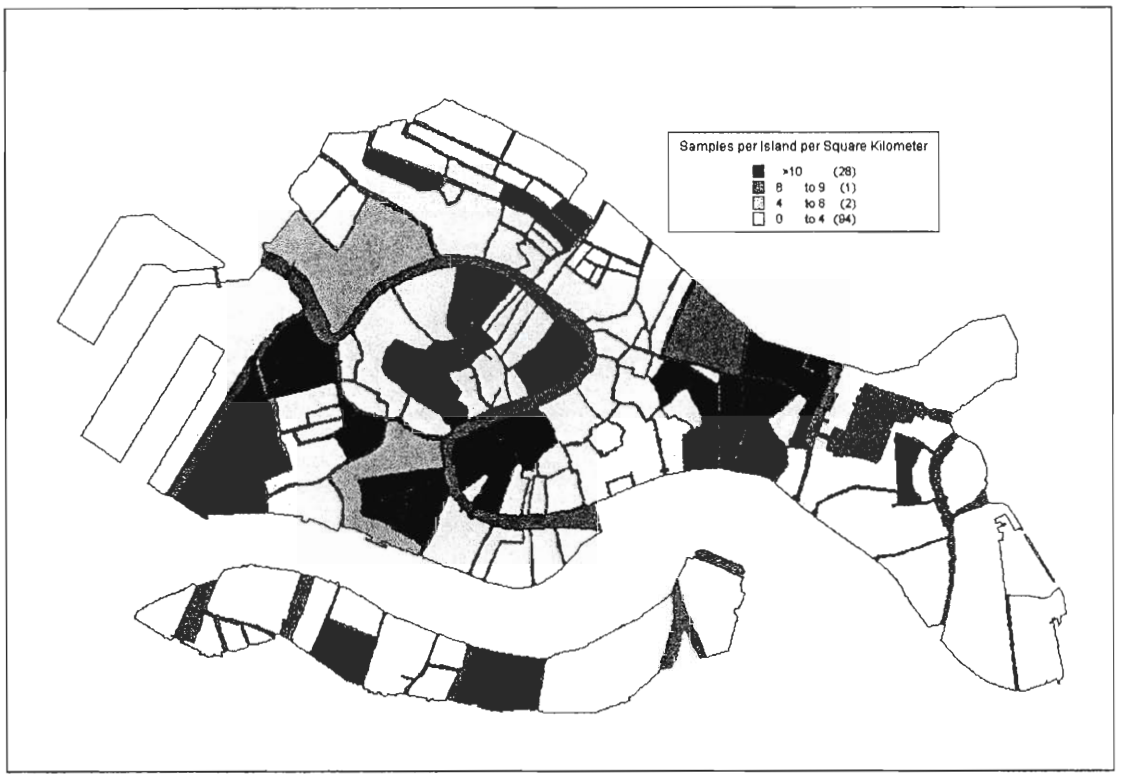

Figure 36: Samples per square kilometer in each island

6.4.2 Soil Composition by Location

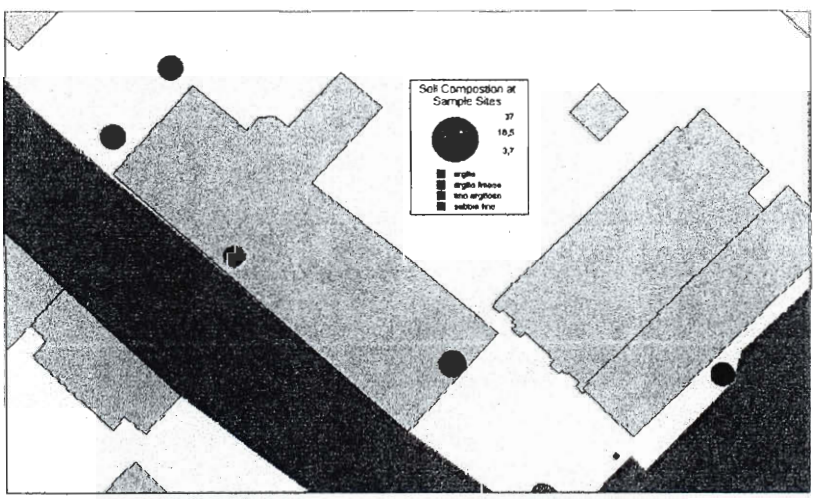

Figure 37: Soil Compostion at Test Sites

When comparing the soil make-up among test locations, one of the aspects examined was how much of each soil type was present at each location. Section 6.3.4 contains example comparisons of soil compositions among different locations. The

pie charts and bar graphs used to represent these compositions were constructed after exporting the data to Excel. This same type of analysis can be conducted using MapInfo. Figure 37 is a map of several test locations, each of which, is represented by a pie chart showing the soil compostion.

The distribution of a specific type of soil throughout Venice can be examined with distribution maps. As mentioned in section 6.3.2 argilla, argilla limosa, limo argilloso, and sabbia fine occurred most frequently throughout the samples taken in Venice. Using MapInfo, the amounts of each of these soils were interpolated (among the known samples) for all of Venice.

Figure 38 shows the concentrations of argilla throughout Venice obtained by interpolating among the argilla values recorded at sample sites. Argilla appears to be distributed more heavily in northern Venice, particularly where the islands of Chiovere

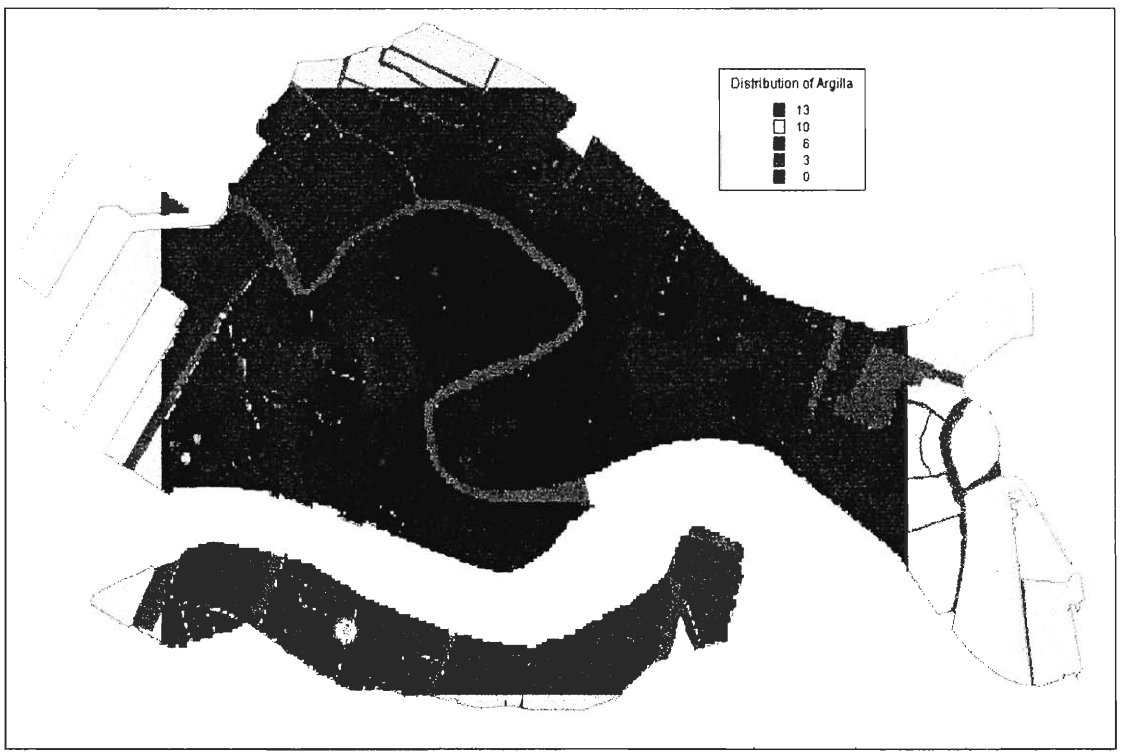

Figure 38: Distribution of argilla (lighter shades = more argilla)

San Girolamo and Santa Maria di Valverd are. Also, a lot of argilla is prevalent in the island of Santa Marta in , located in the southwestern part of Dorsoduro. Argilla limosa is

concentrated in Chiovere San Girolamo and the area between the islands Ragusei and Piazzale Roma as can be seen in Figure 46 in Appendix A Limo argilloso is highly concentrated between the islands Ragusei and Frari, located in Dorsorduro and San Polo, respectively. There are also heavy concentrations of limo argilloso between the northeastern part of Santa Croce and the adjacent area in. Sabbia fine is mostly concentrated in northwestern Castello and between Ragusei and Frari Cannaregio (see Figure 47 and Figure 48 in Appendix A)

6.4.3 Interpolated Depths of Four Main Soil Types

Figure 39 illustrates the depth ranges over which argilla is present throughout Venice. There are interesting correlations between the amounts and depths of argilla. In areas in which argilla is heavily concentrated it is at shallower depths, whereas it is deeper in areas where there is not much of it. The older islands in Venice sometimes correspond to areas where argilla is the deepest. Moreover, several areas located in the vicinity of these older islands contain deep argilla. Figure 40 shows what are believed to be the oldest islands colored in red. A possible explanation for this correlation is that

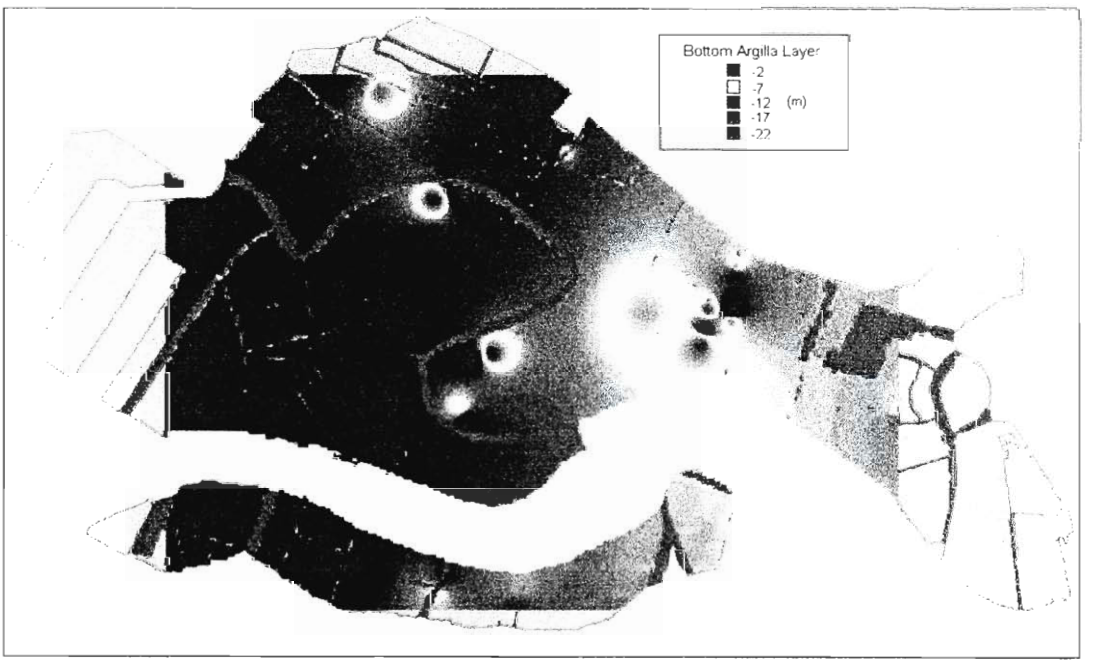

Figure 39: Depth of argilla throughout Venice (light blue areas correspond to deaper argilla)

argilla has had more time to settle in islands that are older. This trend is not extremely pronounced, but this may be due to the fact that there is such a small number of samples, and the samples are not only unevenly distributed, but also taken at shallow depths. It is entirely possible that if more samples were taken at greater depths in areas that contain older islands, it might be seen that argilla is definitely deeper in those locations.

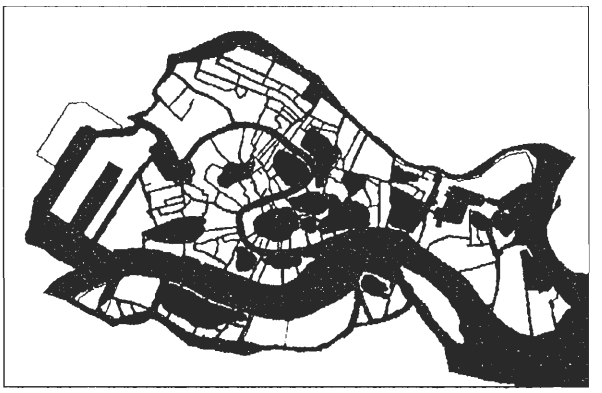

Figure 40: Oldest islands in Venice[14]

Argilla limosa is located at its deepest where it is highly concentrated, possible indicating that argilla is more likely to mix with limo at deeper locations (see Figure 49 in Appendix A . Limo argilloso also tends to occur in greater amounts in areas where it is shallowest. Sabbia fine appears at a relatively constant 7 m below the mareographic zero, with the exception of two shallow areas along the grand canal (see Figure 50 and Figure 51 in Appendix A). It is possible that flowing of water regularly deposits sabbia fine to the areas along the Grand Canal. This would result in sabbia fine's presence at shallower depths. It is important to understand that this trend only appears in the locations along the canal at which samples were taken. Future tests taken along the canal could verify the trend which is supported by another small cluster of samples near the canal that shows sabbia fine at slightly higher depths.

The interpolations discussed above should not be taken as absolutely correct. The location and manner in which the samples were taken have to be considered when the validity of the interpolated data is judged. Areas in which there are high concentrations of samples would tend to lend themselves to more accurate interpolations simply because there is more data to work with. Furthermore, when interpolation between sample locations is planned, those locations are usually chosen on a grid, so that more accurate

[14] F. Carrera, *Campo Santa Maria Formosa, Venice, Italy*, 1997.

predictions can be made. The samples analyzed in this project were not distributed as such.

6.5 Three Dimensional Mapping Results

One of the goals of this project was to create a three-dimensional representation of the soil layers under Venice (see Section 5.7.3). However, the following problems prevented the full realization of this goal:

- Software (Vertical Mapper) limitations
- Uneven distribution of soil sample tests in Venice
- Discontinuity of soil layers

The limited capacity of the software was the main hindrance to creating a 3-D map, while the uneven distribution of soil tests and layer discontinuity posed additional difficulties. Because of these problems, alternative methods of soil representation were also explored.

6.5.1 Abilities and Limitations of Vertical Mapper

The software package we evaluated for our 3-D mapping needs is called Vertical Mapper, a program that works with Mapinfo to analyze and display trends of data that vary continuously over geographic space. An example of this feature is its ability to create a three-dimensional contour map using known elevations from a two-dimensional map. The program interpolates among the known elevations to create a relatively continuous surface.

This feature of Vertical Mapper was used to determine the height (or *quota*) of the samples above the mareographic zero using an existing map of known elevations throughout Venice (see Section 5.7.2). These heights needed to be found since they gave the soil layer depths a common reference point. Vertical Mapper was used to create an accurate continuous surface of Venice from the known elevations. (Add interpolation map) The locations of the soil sample tests were overlaid onto this map, and then Vertical Mapper was used to extract the interpolated height for each sample point and store this value in the soil sample map layer. This greatly sped up the process of determining the soil sample heights, which was planned to be calculated by hand.

It was originally thought that Vertical Mapper could also be used to create three-dimensional representations of the soil layers in Venice using their known depths. Ideally, the depths of soil would translate into 3-D volumes representing the soil layers, and then each of these layers would be appropriately stacked, one on top of another, to model the entire soil composition. A cross-sectional slice of the 3-D model would then, in theory, reveal a cross-section of the soil layers in a desired area (see Figure 41). The theory sounds wonderful, but making it a reality was very difficult.

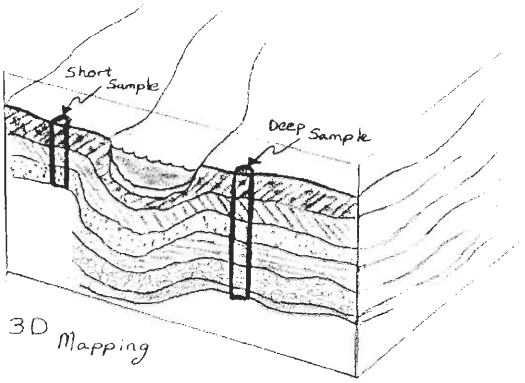

Figure 41: Cross-sectional view of 3-D soil map

It was found that Vertical Mapper was only designed to create 3-D surfaces (or contours), and not the 3-D volumes that were envisioned. Also, the program can only deal with one surface at a time, so overlaying multiple surfaces (e.g. the top and bottom of a soil layer) was not possible. Creating a single contour map for the top of a soil layer is possible using our current database and Vertical Mapper. However, this was not carried out since it is believed that the resulting surface map would be inaccurate. The difficulties in actually creating an accurate volumetric 3-D map or contour map of soil layers will be discussed in the following two sections.

6.5.2 Uneven Sample Test Distribution

There are also other challenges to be dealt with when creating a three-dimensional map of the soil layers in Venice. The locations of the samples that have been taken thus far are not evenly distributed throughout Venice. Consequently, there may be problems describing the layers in locations that do not contain many samples.

Generally, soil sample tests are conducted using sites distributed on an evenly spaced grid as in network sampling (see Section 3.3.2). This allows accurate interpolation in all directions, since any sample would be surrounded in all directions by other samples (see Figure 42). It is important to realize that soil layers can change in three-dimensions, so the more evenly and closely the soil samples are distributed, the more accurately the changes of the soil layers can be predicted. The distribution of samples is of vital importance when considering the three-dimensional mapping of a specific area, particularly if its creation involves any one of various interpolation techniques (see Section 3.3.3). Though it is not necessary that the data be evenly spaced, it is nevertheless important that data points cover a considerable portion of the observed area in order for the interpolation to be meaningful.

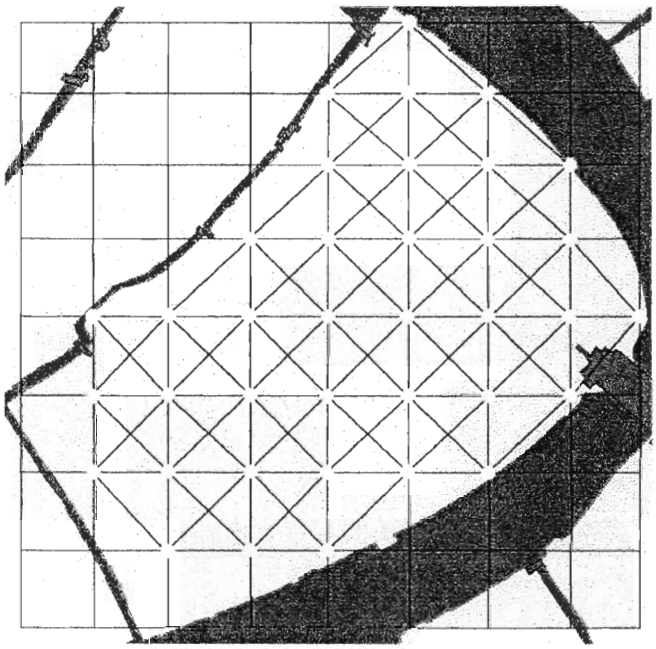

Figure 42: Ideal case of samples taken in grid for 3-D mapping

Since interpolation involves the estimation of new values based on existing observed values, it follows that the absence of adequate data in a portion of a given area would result in a less accurate interpolation than that performed in an area having a denser collection of observed points. From Figure 35, one can see that there are certain areas in Venice in which few or no soil sample tests have been taken. For instance, it appears that virtually no soil tests have been conducted in eastern Castello (at least from the data that has been provided). Thus, it would be expected that an interpolation performed in this area would be much less accurate than that performed in western Castello where there is a greater density of soil samples. One can conclude from Figure 35 that there are many areas in Venice in which there would be an insufficient number of

points to conduct accurate interpolations. Consequently, a three-dimensional map of the soil layers in Venice would only be possible in limited areas. [15]

6.5.3 Discontinuity of Soil Layers

When a virtual representation of soil layers from soil samples is created, it is assumed that the layers between the sample sites are continuous and that the samples generally agree with one another in composition. In reality, soil layers can start and stop, overlap, criss-cross, and even merge with each other. In other words, there can be considerable interruptions in soil layer continuity.

This may be particularly true for the soil under buildings and canals and other such structures in Venice. Figure 43 illustrates a specific example of soil layer depth

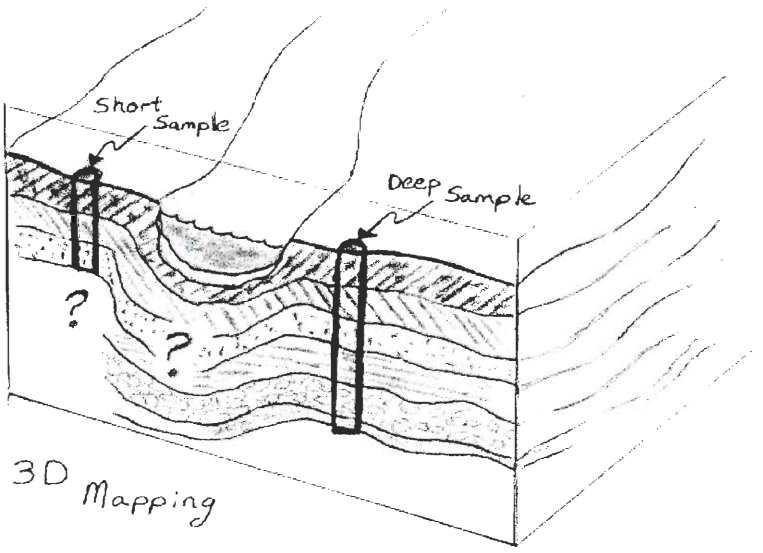

Figure 43: Discontinuity of soil layers

discontinuity. In this example, one can see how the continuity of soil layers can be interrupted by a canal. At the edges of the canal, one can see that the various soil layers lie at the same depths, as might be expected. However, with no sample taken within the canal it is not exactly known how the composition of the soil changes underneath it. One possibility is that the height of the soil layers decreases as the soil layers are compacted

[15] This assumes that one has the software to create accurate 3-D soil maps

by the weight of the canal structure and the water flowing through it. It is also possible that some of the soil layers could stop altogether when intersected by the canal. Without a sample obtained in the canal, it is extremely difficult for an accurate interpolation to be made.

Buildings would obviously cause similar difficulties, as levels of discontinuity could vary with structures of different weight or different foundations. The soil layers under buildings may not be continuous because of changes that the foundations, pilings, or construction work may have created. This introduces another problem when one attempts any realistic 3-D mapping of an area, as the software might assume that the soil layers between soil sample sites are continuous and lie at the same depth.

Many of the samples are also taken at various depths, which makes it difficult to be certain of the continuity of deeper layers (as shown in Figure 43). An interpolation between a short sample and a longer sample would also create difficulties. In this case, the mapping software may interpolate in one of two ways, if it can at all. It may decide to stop or halt the interpolation process underneath the shorter sample so that the deeper layers do not appear in the representation of this area. Alternatively, it could assume that the deeper layers, described by the deep sample, continue underneath the short sample, and ignore the absence of soil data in this area. Both cases would obviously result in a less accurate 3-D estimation of the soil layers.

Another case of discontinuity might resemble that shown in Figure 44, in which two soil samples contain the same soil types located at very different depths. In this case, the software may attempt to interpolate diagonally between the similar soil types of each sample site, resulting in an intersection of interpolation and a possible error or confusion of the computer program as shown. This is a simplified example as samples can have more that just two soil

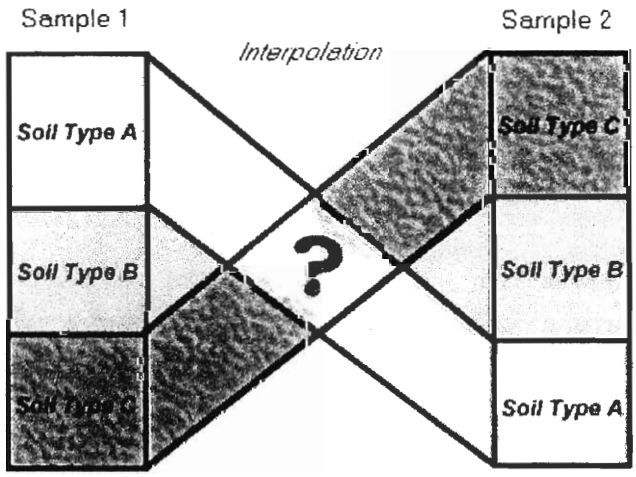

Figure 44: Criss-crossed soil layers create an interpolation problem

layer types that occur at different depths, thus resulting in more that just one intersection of interpolation and obviously more confusion.

On the other hand, Figure 45 illustrates a case in which a mapping program might attempt to interpolate between one sample having two layers of a certain soil type and another having only one layer of that same soil type. Here, it is assumed by intuition that the two soil layers may merge into one. However, a computer interpolation must be explicitly programmed to deal with this situation.[16]

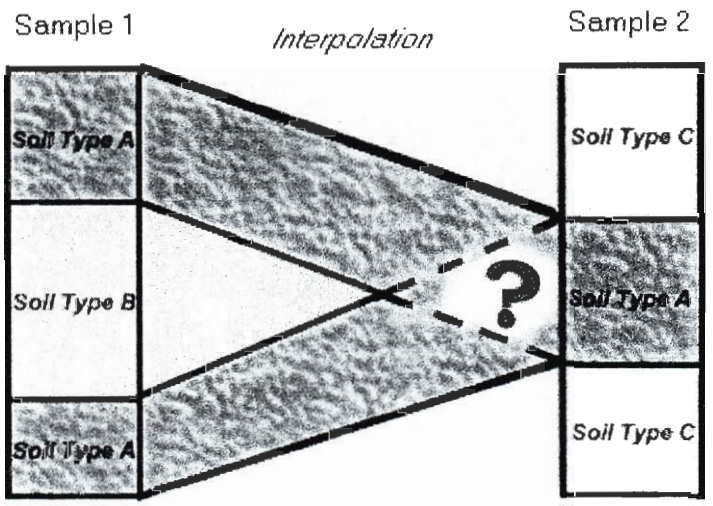

Figure 45: Merging soil between samples.

Hence, there appears to be a considerable number of factors that have to be taken into account when attempting to produce an accurate volumetric 3-D map of an area, especially if the area lies under or around structures such as buildings and canals. One must also realize that interpolation usually occurs among several or more data points rather than between only two. Thus, a combination of different situations like those illustrated could influence interpolated values, further affecting accuracy.

[16] These examples of discontinuity describe much of the soil test information that was given.

6.5.4 Alternative Methods of Soil Representation

In a further attempt to obtain a three-dimensional representation of the soil layers, an alternative method was attempted with stacked area graphs using the Microsoft Excel software package. The idea was to stack various area graphs, each representing an individual soil layer for the entire city, one on top of each other. However, this presented a problem in that it is extremely rare that the soil stratification at different sample sites would be the same. Though it is possible to specify soil layer thicknesses, it is not possible to specify the depth at which they lie. The program will only draw correlations between soil types of each sample in the order in which they occur. A simplified example follows: If sample A contains a layer of clay followed by one of lime and sample B has a layer of lime followed by clay, the software package will only connect the first layers of the samples (the clay layer of sample A and the lime layer of ample B). Even though the soil layer types are completely different, they will be connected together simply because they are both the first layers of the samples. Likewise, the second layers of the soil types will also be connected, even though they are completely different. One would expect that the program would connect only the like soil layers of two or more samples, even if they lie at different depths as explained in the previous section (see Section 6.5.3). However, this was not possible as connections could only be drawn between layers according to their order of occurrence in the samples rather than at the absolute depths at which they lay.

Chapter 7 - Conclusions

The primary goal of this project, which was to standardize and computerize the soil sample reports of Venice, was realized by the creation of a descriptive and extensive database. In addition, the computerized mapping of all the soil sample test sites (149) and penetrometric test sites (121) provided in the paper reports, was completed. The soil reports can now be printed out in a common format from the database, which includes the easy-to-read 2-D maps of the test site locations. Analysis of the soil data from the database can also be used to draw conclusions about the overall soil composition under the city, as will be discussed later. These achievements provide the foundation for the potential realization of the third goal: the three-dimensional representation of the soil layers of Venice, which was not effectively attained for the reasons outlined and discussed in Section 6.5.

The data contained in the database produced in this project can be analyzed in several different and useful ways. High-low graphs, showing the mean elevations of soil layers anywhere where samples were taken, and pie-charts describing the soil distribution at these locations can easily be constructed from the information in the database. In addition to such meaningful analyses, the information contained in the paper reports can quickly and easily be viewed with the use of database reports, which contain the information in a clear and concise manner.

The maps developed in this project are useful in a variety of ways. Since all the soil test locations can be viewed very easily, future testing can be planned more accurately. Also, by simply "clicking" on any given test location, all the information about the soil test performed there can be obtained. Thematic maps, which show data trends, can be created with ease, and examples of such maps were discussed in Chapter 6. The trends found in the data used for this project were not always strong; however, it is believed that as more data are entered, more meaningful analysis can be conducted. This project has provided many tools for such analysis. This project's main accomplishments are:

- Comprehensive soil information database
- Standard format for future reports
- Spatial representation of soil data
- Methods for the analysis of computerized soil data

The implication of this project is that soil information relating to Venice can now be stored and analyzed effectively. The soil information that is currently computerized is not sufficient for developing a layer map of Venice's soil and eliminating future testing. However, when more test information is entered, geotechnical experts will be able to accurately characterize the sub-soil of Venice. This ultimate characterization may lead to a reduction in necessary soil tests.

Chapter 8 - Recommendations

A standardized format for soil sample reports must be set and agreed upon by all participating companies in order to more effectively archive the field data that has been collected. The current format is comprehensive to the best of our knowledge and provides a good organizational structure.

A more even distribution of soil sample tests must be conducted in Venice and the Giudecca in order to gain a more complete understanding of the soil stratification in all parts of the city. From the paper reports provided it appears that, rather than being evenly distributed throughout the entire city, most soil tests were performed in clusters in certain areas, while in other areas, they are virtually non-existent. This offers a significant problem when interpolating among the given data to create a three-dimensional map of the underground soil, as interpolated soil layers in areas with fewer or no samples would be much less accurate than those performed in areas with denser sample collections. More testing would aid in the creation of a 3-D map that is accurate in all areas of the city.

From Section 6.5.3, we also conclude that more samples taken in canals and around the outskirts or edges of buildings would be invaluable in allowing one to better predict and anticipate discontinuities and changes in soil layers (depth, composition, thickness) due to these structures.

Finally, a mapping program with expanded capabilities should be explored. Cross-sectional views and analyses of the layers would also need to be possible. This program might also employ certain mathematical functions that would predict, as accurately as possible, the discontinuities in soil layers discussed in Section 6.5.3, hence contributing to the overall accuracy of the three-dimensional representation of the underground soil. In summary the recommendations are:

- Adopt a standard format for storing and reporting soil data.
- Take samples in evenly distributed locations for layer mapping.
- Explore alternative software for three-dimensional representation.

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APPENDICES

Appendix A - Tables and Figures

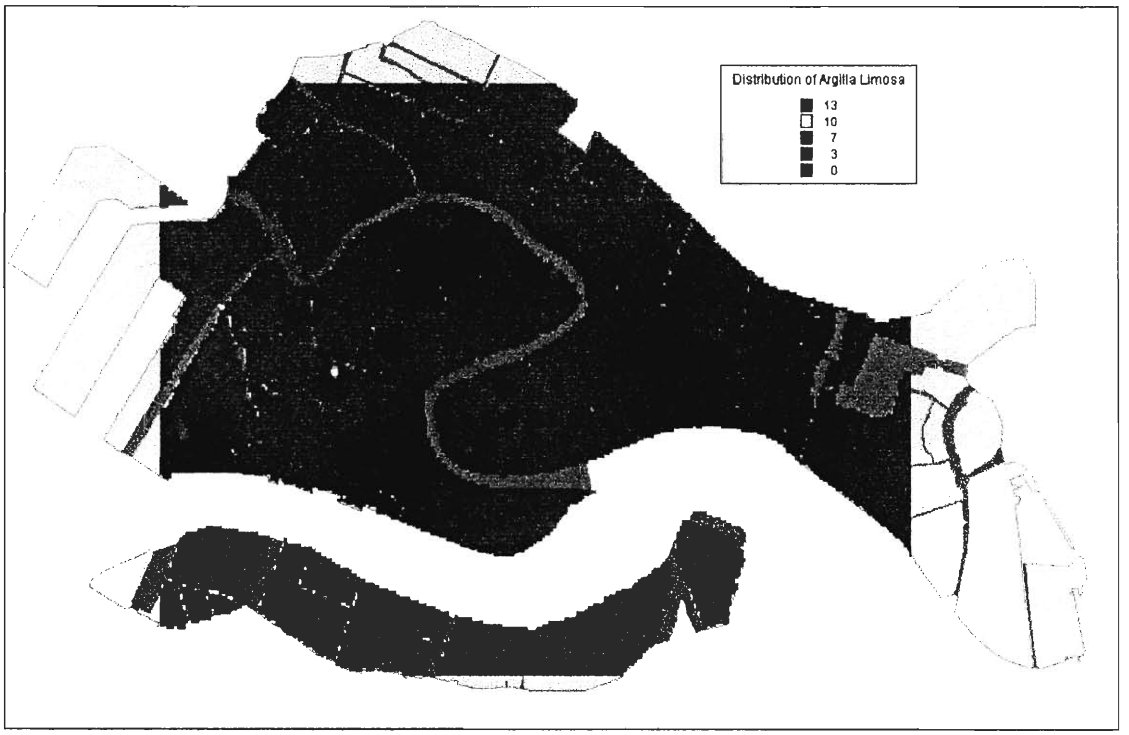


Figure 46: Concentration of argilla limosa throughout Venice (lighter blue and green=more argilla limosa)

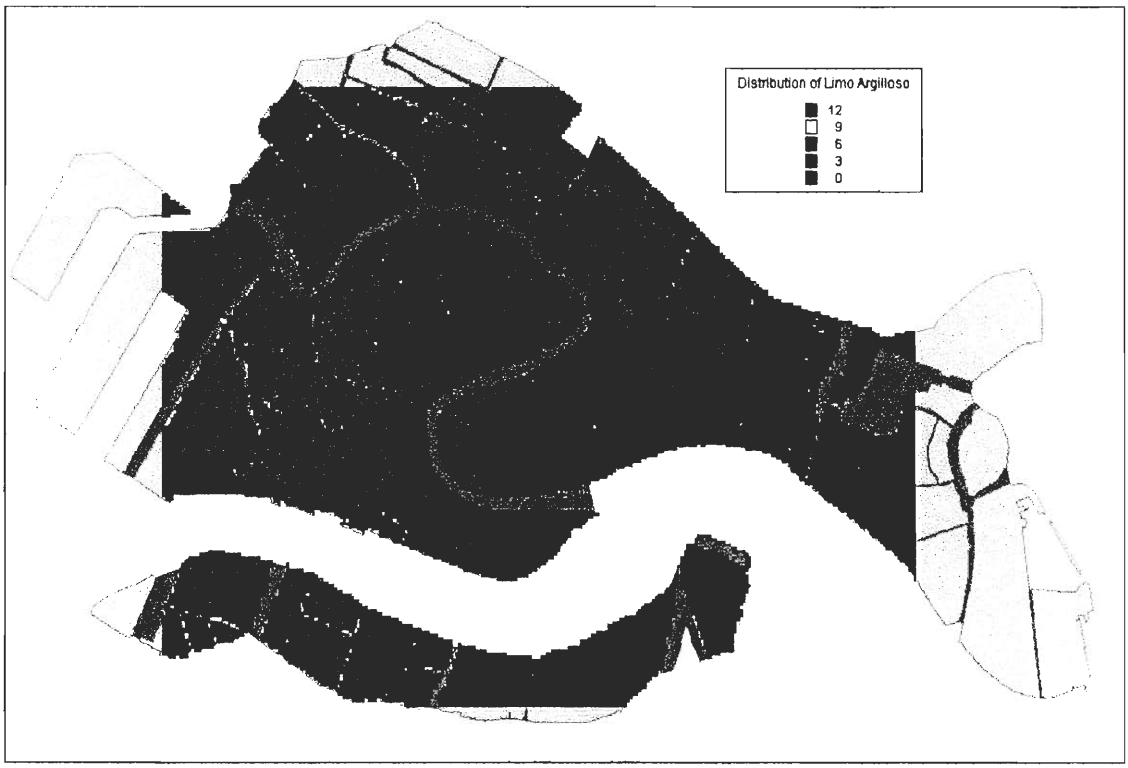


Figure 47: Concentration of limo argilloso throughout Venice (lighter shades=more limo argillos)

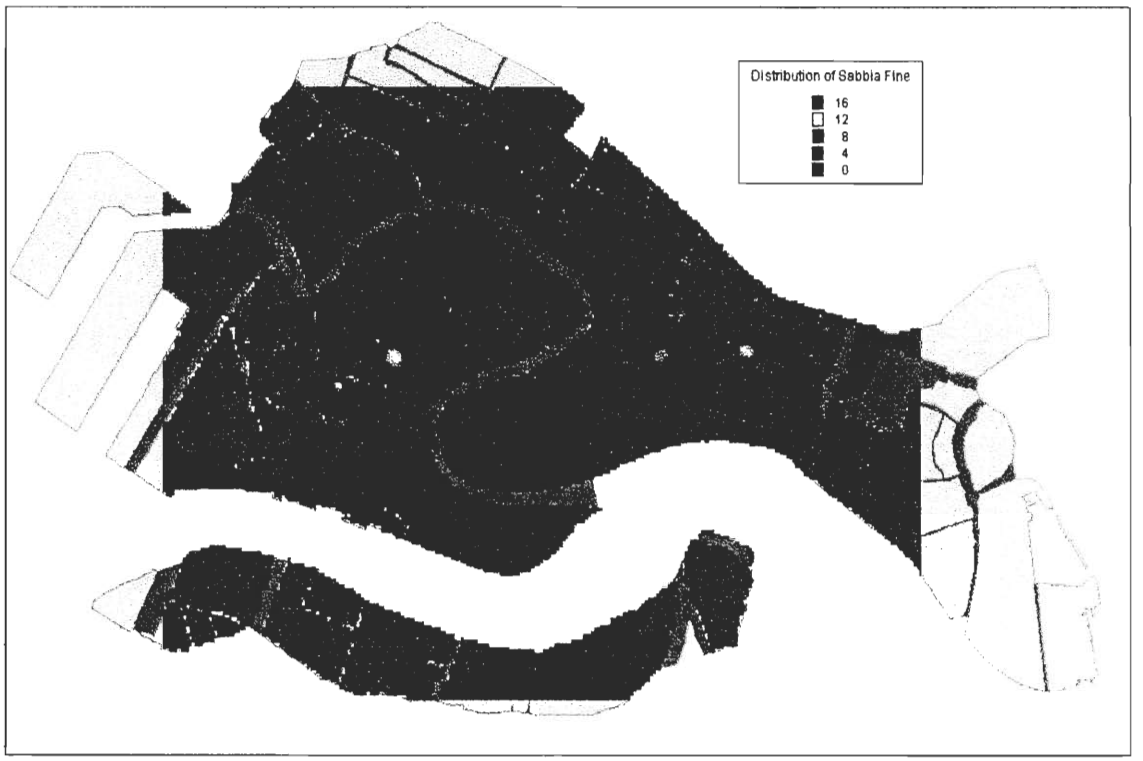


Figure 48: Concentration of sabbia fine throughout Venice (lighter shades and green=more sabbia fine)

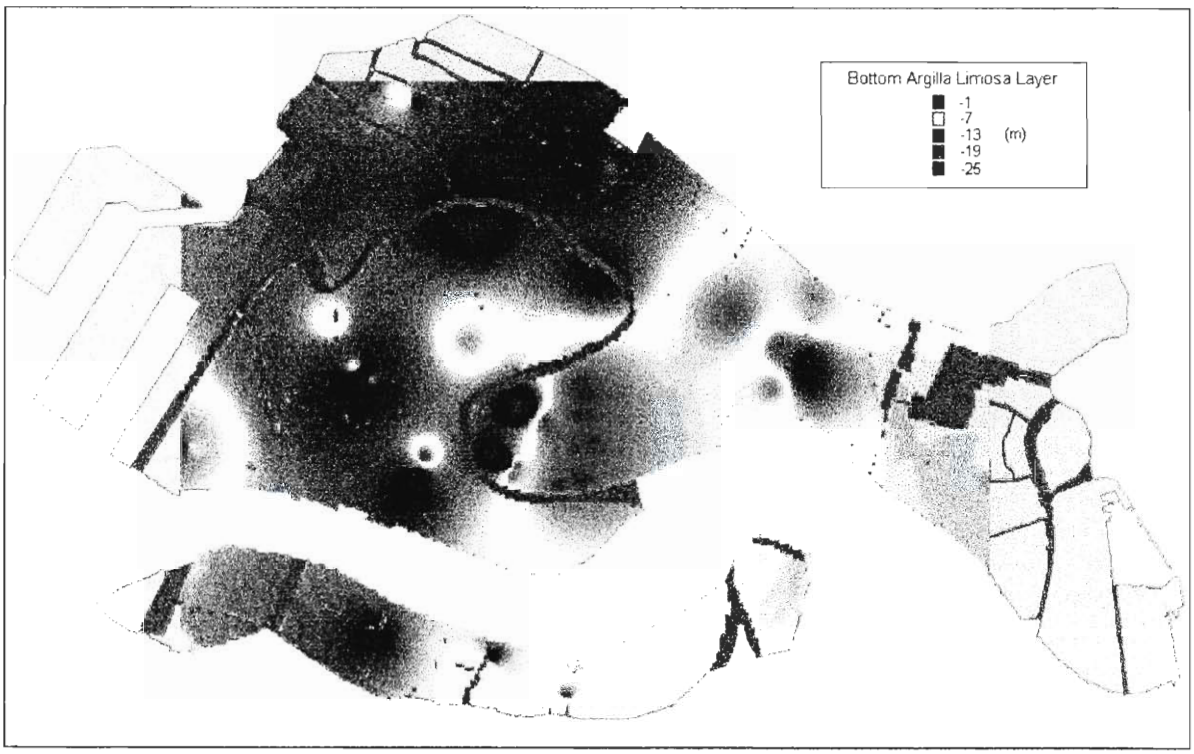


Figure 49: Depth of argilla limosa throughout Venice

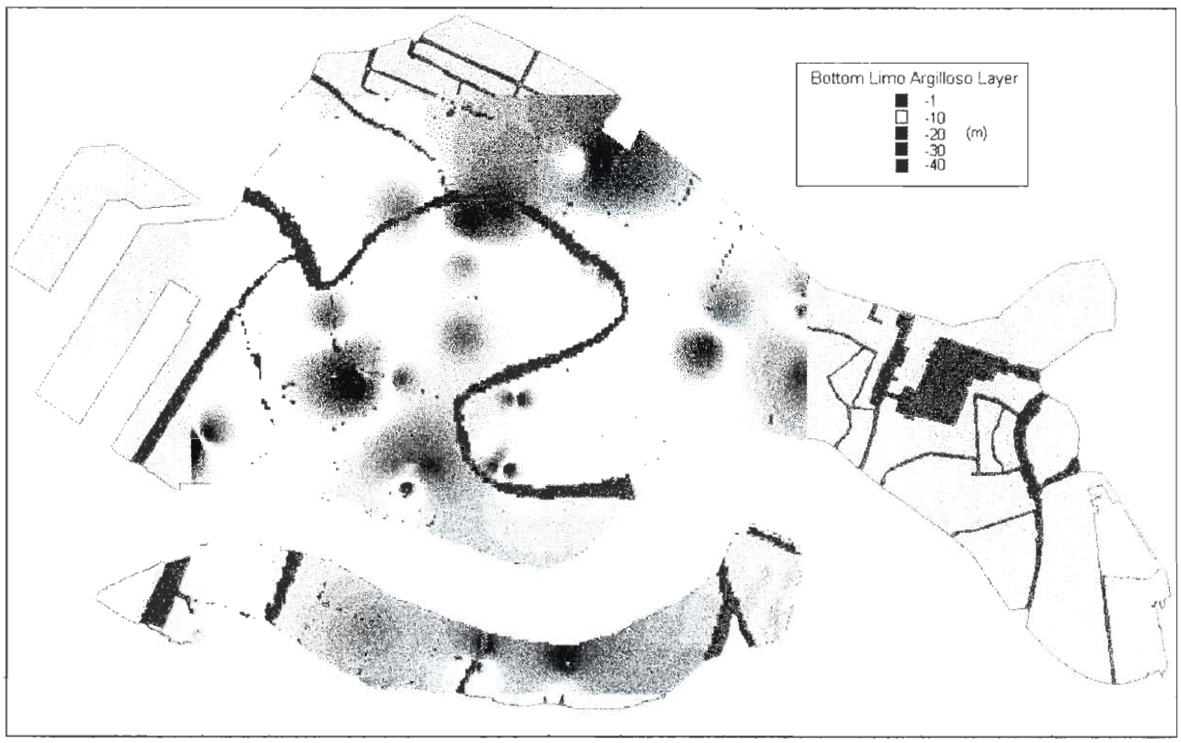


Figure 50: Depth of limo argilloso throughout Venice

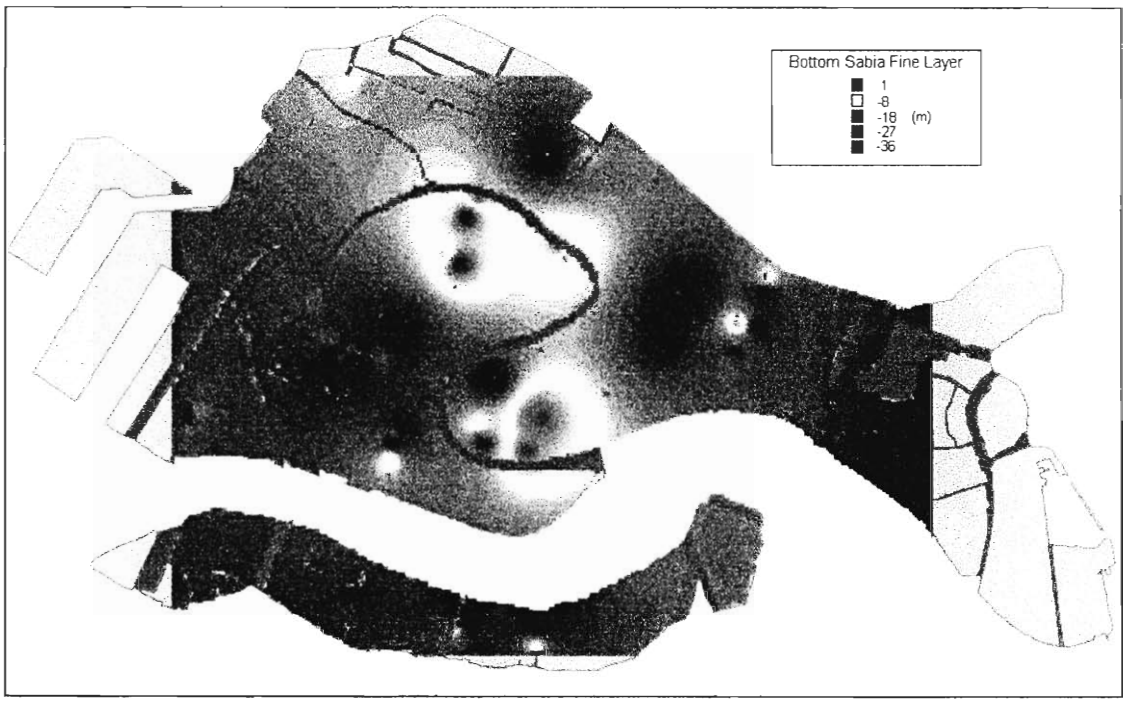


Figure 51: Depth of sabbia fine throughout Venice

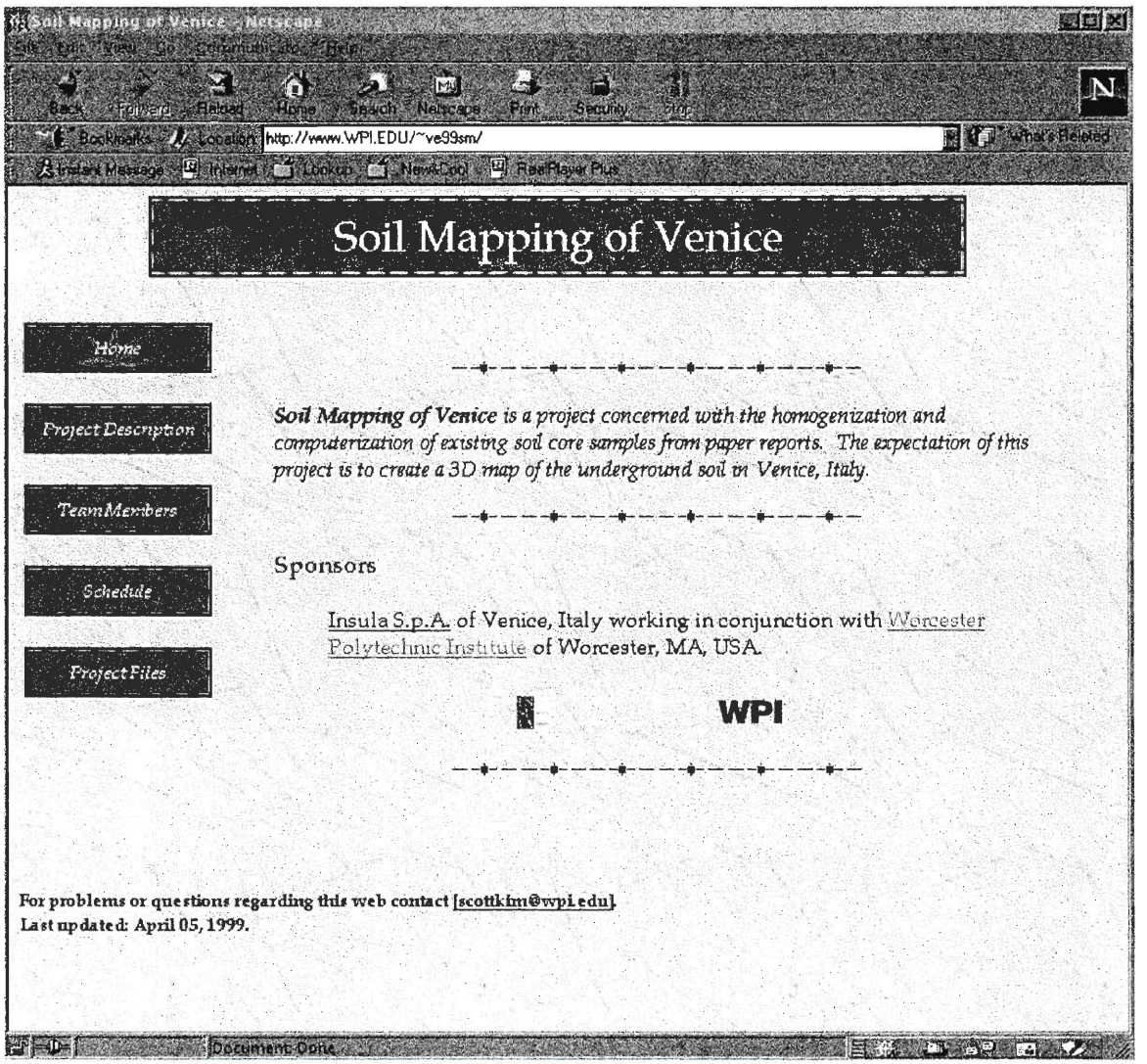


Figure 52: Screenshot of Soil Mapping homepage (http://www.wpi.edu/~ve99sm)

Appendix B - Glossary of Soil Types

Tipi di Terreno	Types of Soil
Argilla	Clay
Argilla Limosa	Limey Clay
Limo Argilloso	Clayey Lime
Limo Sabbioso	Sandy Lime
Rocce Calcare	Rocks
Sabbia	Sand
Sabbia e Ghiaia	Sand and Rocks
Sabbia Fine	Fine Sand
Sabbia Limosa	Limey Sand
Terreno di Riporto	Tilled Soil

Appendix C Example Report

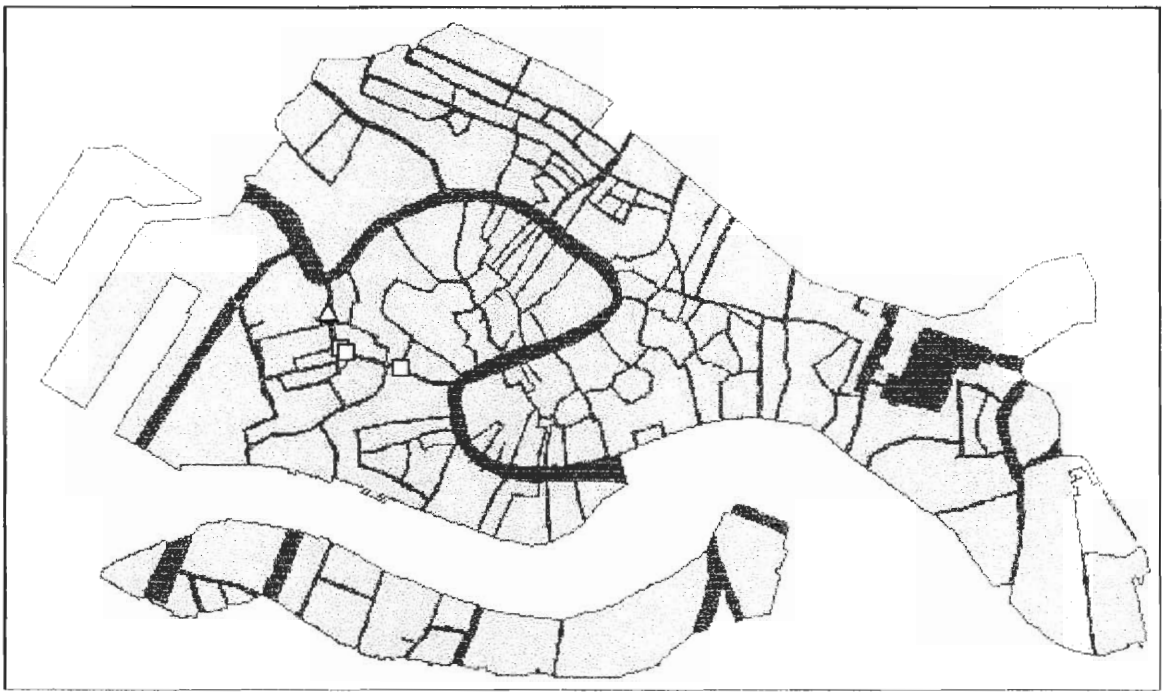
GEOTE-00

01/07/92

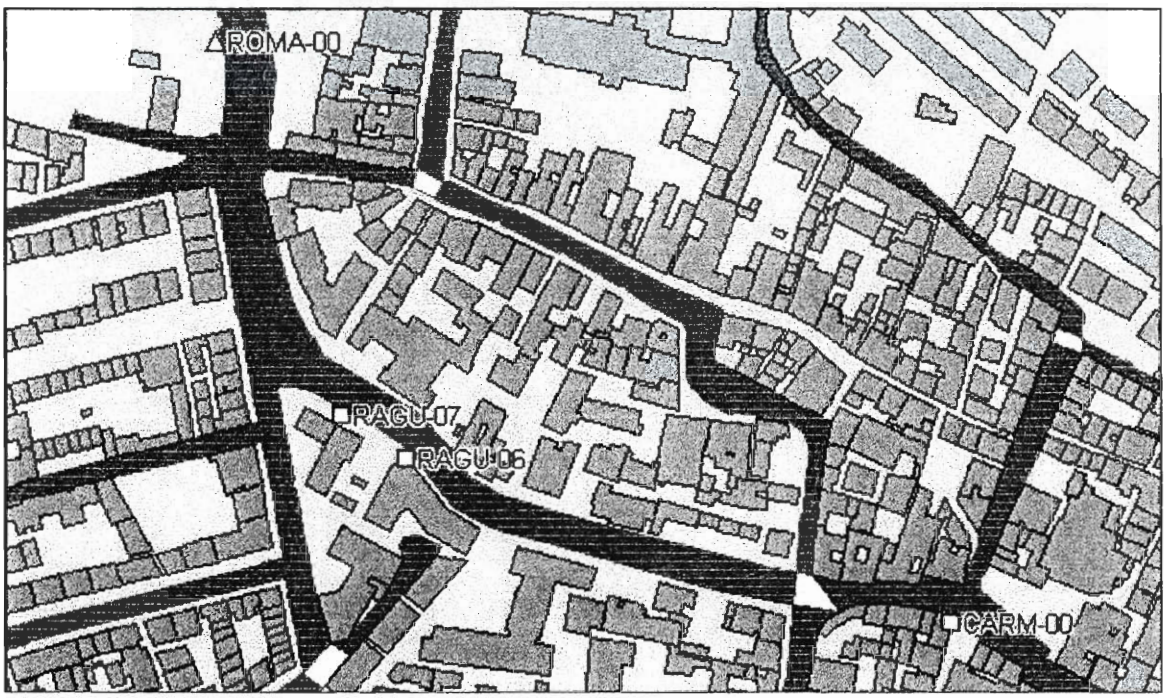
Insula S.p.A.

Ditta	Committente	Cantiere
Geotecnica Veneta s.r.l./s.n.c.	Amministrazione Comunale di Venezia	Rio Novo

Mappa dei Carotaggi (vasta)



Mappa dei Carotaggi (limitata)



Carotaggio	*Codice Interno*	*Ditta*	*Profondità*	*Quota*	*Data*
CARM-00	S1	Geotecnica Veneta s.r.l./s.n.c.	15,00 m	1,21 m	01/02/92

Numero Civico	*Riferita A*	*Tipo di Attrezzatura*	*Assistente*	*Operatore*
DD3687/A	piano banchina	A Rotazione	Mortillaro D.	Zorzetto M.

Profondità (m)	Spessore (m)	Tipo di Suolo
0,00	2,20	sabbia e ghiaia
2,20	3,30	limo argilloso
5,50	0,60	argilla
6,10	0,40	limo sabbioso
6,50	5,10	sabbia fine
11,60	1,90	argilla
13,50	1,50	sabbia fine

Carotaggio	*Codice Interno*	*Ditta*	*Profondità*	*Quota*	*Data*
RAGU-06	S4	Geotecnica Veneta s.r.l./s.n.c.	15,00 m	1,50 m	01/02/92

Numero Civico	*Riferita A*	*Tipo di Attrezzatura*	*Assistente*	*Operatore*
DD3493/A	piano campagna	A Rotazione	Dott. Geol. Zabeo	Zorzetto M.

Profondità (m)	Spessore (m)	Tipo di Suolo
0,00	0,50	pavimentazione
0,50	0,80	sabbia e ghiaia
1,30	0,80	conglomerati
2,10	0,30	ghiaia
2,40	5,50	argilla limosa
7,90	0,30	sabbia fine
8,20	3,20	limo sabbioso
11,40	3,60	sabbia fine

Carotaggio	*Codice Interno*	*Ditta*	*Profondità*	*Quota*	*Data*
RAGU-07	S2	Geotecnica Veneta s.r.l./s.n.c.	15,00 m	1,49 m	01/02/92

Numero Civico	*Riferita A*	*Tipo di Attrezzatura*	*Assistente*	*Operatore*
DD3637/A	piano banchina	A Rotazione	Dott. Zabeo M.	Zorzetto M.

Profondità (m)	Spessore (m)	Tipo di Suolo
0,00	0,70	sabbia e ghiaia
0,70	2,20	conglomerati
2,90	0,60	sabbia e ghiaia
3,50	0,60	conglomerati
4,10	4,90	argilla
9,00	3,40	sabbia fine
12,40	1,30	argilla
13,70	1,30	sabbia fine

Carotaggio	*Codice Interno*	*Ditta*	*Profondità*	*Quota*	*Data*
ROMA-00	S3	Geotecnica Veneta s.r.l./s.n.c.	15,00 m	1,39 m	01/02/91

Numero Civico	*Riferita A*	*Tipo di Attrezzatura*	*Assistente*	*Operatore*
DD274/A	piano banchina	A Rotazione	Zanatta dott. B.	Zorzetto F.

Profondità (m)	Spessore (m)	Tipo di Suolo
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0,70	1,30	limo
2,00	0,60	sabbia fine
2,60	0,40	sabbia e ghiaia
3,00	0,60	argilla limosa
3,10	3,10	argilla limosa
3,60	0,60	argilla limosa
4,20	0,80	argilla limosa
5,00	0,60	argilla limosa
5,60	0,60	argilla limosa
6,20	0,50	limo argilloso
6,70	0,80	argilla limosa
7,50	7,50	sabbia fine

Appendix D Database Structure

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Codice Interno	Text	50
Tipo di Carotaggio	Text	50
Codice Ditta	Text	50
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Codice Isola	Text	50
Codice Segmento	Text	50
Riferita A	Text	50
Assistente	Text	50
Operatore	Text	50
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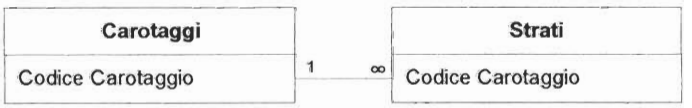

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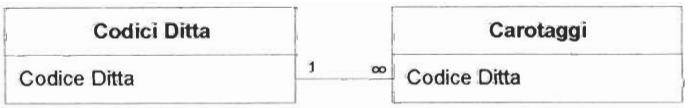

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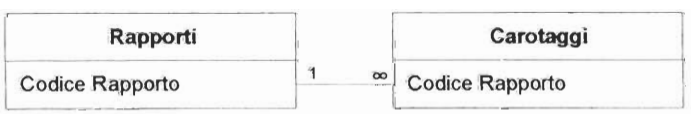

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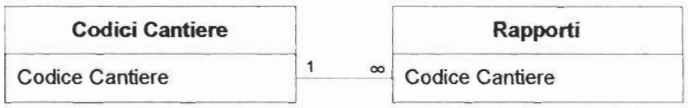

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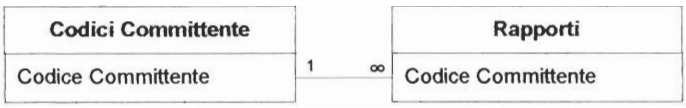

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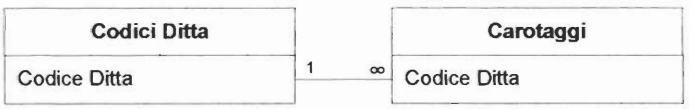

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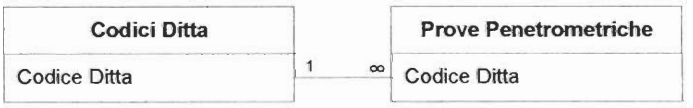

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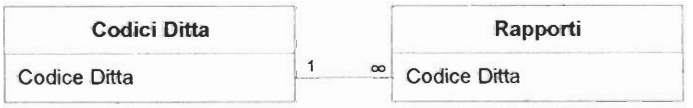

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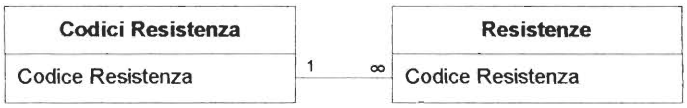

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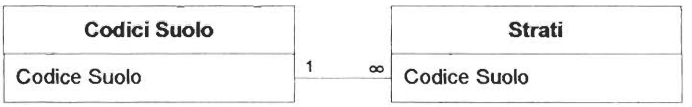

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Codice Isola	Text	50
Codice Segmento	Text	50
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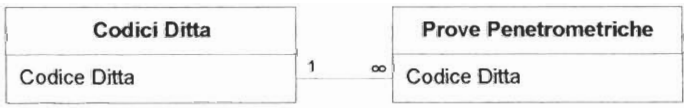

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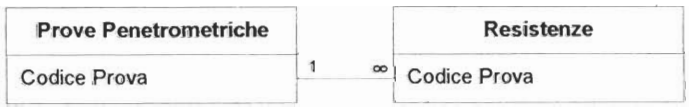

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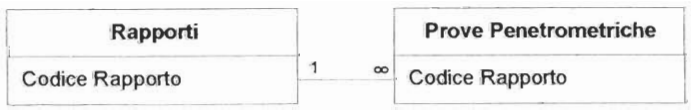

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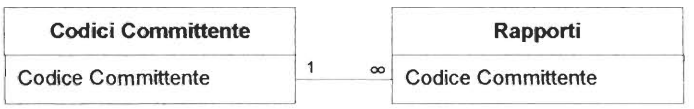

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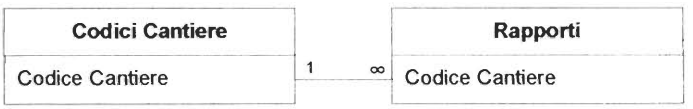

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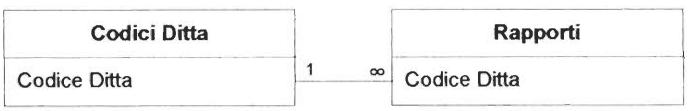

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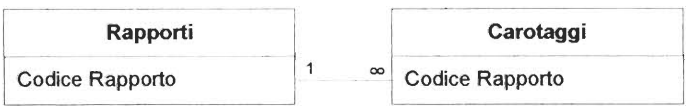

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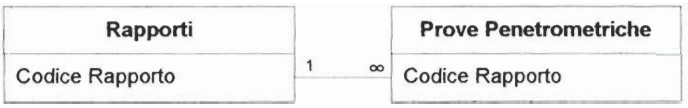

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Misura	Number (Double)	8

Relationships

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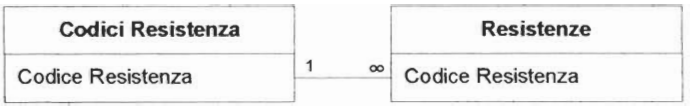

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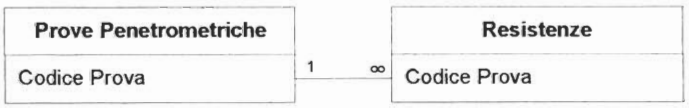

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MAPINFO_ID	Number (Long)	4

Relationships

CarotaggiStrati

Carotaggi		Strati
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OrderBy: One-To-Many

Codici SuoloStrati

Codici Suolo		Strati
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Attributes: Enforced, Cascade Updates
Attributes: One-To-Many

Properties

Allow Edits:	True	Allow Filters:	True
Allow Updating:	No	AllowAdditions:	True
AllowDeletions:	True	Auto Resize:	True
AutoCenter:	True	Border Style:	Sizable
Caption:	Carotaggi	CloseButton:	True
Control Box:	True	Count:	29
Cycle:	None	Data Entry:	False
DatasheetBackColor:	16777215	DatasheetCellsEffect:	Flat
DatasheetFontHeight:	10	DatasheetFontItalic:	False
DatasheetFontName:	Arial	DatasheetFontUnderline:	False
DatasheetFontWeight:	Normal	DatasheetForeColor:	0
DatasheetGridlinesBeha	Both	DatasheetGridlinesColor:	12632256
Date Created:	15/07/99 16.50.52	Default View:	Single Form
DividingLines:	True	Fast Laser Printing:	True
FilterOn:	False	FrozenColumns:	1
Grid X:	10	Grid Y:	10
HasModule:	True	HelpContextId:	0
InsideHeight:	5760	InsideWidth:	8010
KeyPreview:	False	Last Updated:	29/07/99 5.11.56
Layout for Print:	False	LogicalPageWidth:	9074
Max Button:	True	Min Button:	True
MinMaxButtons:	3	Modal:	False
NavigationButtons:	True	OrderByOn:	True
Owner:	admin	Palette Source:	(Custom)
Picture:	C:\PROGRAM FILES\MICROSOFT OFFICE\OFFICE\Bitmaps\Styles\stone.bmp	PictureAlignment:	5
PicturePalette:	`□	PictureSizeMode:	Clip
PictureTiling:	True	PictureType:	0
Pop Up:	False	Record Locks:	No Locks
Record Selectors:	True	Record Source:	Carotaggi
RecordsetType:	All Records	RowHeight:	Default
Scroll Bars:	Both	Shortcut Menu:	True
ShowGrid:	True	Timer Interval:	0
Views Allowed:	Both	Visible:	False
Whats This Button:	False	Width:	7731
WindowHeight:	6465	WindowWidth:	8430

Objects

Section: Detail

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	5102	In Selection:	False
Keep Together:	False	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormFooter

Back Color:	12632256	Can Grow:	False

Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormFooter	Force New Page:	None
Height:	0	In Selection:	False
Keep Together:	False	Name:	FormFooter
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormHeader

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormHeader	Force New Page:	None
Height:	680	In Selection:	False
Keep Together:	False	Name:	FormHeader
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Text Box: Assistente

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Assistente
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Assistente
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	1814	Locked:	False
Name:	Assistente	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Assistente	TabIndex:	8
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	3408
Visible:	True	Width:	1980

Text Box: Codice Carotaggio

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	915	Control Source:	Codice Carotaggio
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Carotaggio
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	233	Locked:	False

Name:	Codice Carotaggio	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice unico del carotaggio	TabIndex:	0
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1120
Visible:	True	Width:	900

Text Box: Codice Interno

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Interno
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Interno
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	3521	Locked:	False
Name:	Codice Interno	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice del carotaggio nel rapporto	TabIndex:	2
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1120
Visible:	True	Width:	1200

Text Box: Codice Isola

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Isola
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Isola
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	3398	Locked:	False
Name:	Codice Isola	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice dell'isola dove si eseguita il carotaggio	TabIndex:	6
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2254
Visible:	True	Width:	1125

List Box: Codice Rapporto

Back Color:	0	Border Color:	12632256
Border Line Style:	Solid	Border Style:	First Page
Border Width:	Hairline	Bound Column:	1
Column Count:	1	Column Heads:	False
Column Widths:	990	ColumnHidden:	False
ColumnOrder:	Default	ColumnWidth:	Default
Control Source:	Codice Rapporto	ControlType:	110
Display When:	Always	Enabled:	True
Event Proc Prefix:	Codice_Rapporto	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	16777215
Height:	283	HelpContextId:	0
Left:	1754	Locked:	False
MultiSelect:	No	Name:	Codice Rapporto
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Rapporti].[Codice Rapporto] FROM [Rapporti];
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice del rapporto dove si trova i dati del carotaggio	TabIndex:	1
TabStop:	True	Text Font Char Set:	0
Top:	1134	Visible:	True
Width:	1140		

Label: Codice Rapporto_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Codice Rapporto	ControlType:	100
Display When:	Always	Event Proc Prefix:	Codice_Rapporto_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	1530
Name:	Codice Rapporto_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	850
Visible:	True	Width:	1590

Text Box: Codice Segmento

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Segmento
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Segmento
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0

Left:	5669	Locked:	False
Name:	Codice Segmento	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice del segmento dove si eseguita il carotaggio	TabIndex:	7
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2254
Visible:	True	Width:	1530

Text Box: Data

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Data
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Data
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	6859	Locked:	False
Name:	Data	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Data del carotaggio	TabIndex:	4
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	270
Visible:	True	Width:	840

Label: Data Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Data	ControlType:	100
Display When:	Always	Event Proc Prefix:	Data_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	6859
Name:	Data Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	0
Visible:	True	Width:	840

Combo Box: Ditta

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	2
Column Heads:	False	Column Widths:	0;3015
ColumnHidden:	False	ColumnOrder:	Default

ColumnWidth:	Default	Control Source:	Codice Ditta
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Ditta	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	284	HelpContextId:	0
Left:	5102	Limit To List:	True
List Rows:	8	List Width:	3015
Locked:	False	Name:	Ditta
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici Ditta].[Codice Ditta], [Codici Ditta].[Nome Ditta] FROM [Codici Ditta];
Section:	0	Special Effect:	Etched
Status Bar Text:	La ditta chi ha fatto questo carotaggio	TabIndex:	3
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	2545

Label: Ditta_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Ditta	ControlType:	100
Display When:	Always	Event Proc Prefix:	Ditta_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	5825
Name:	Ditta_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	850
Visible:	True	Width:	915

Label: Label11

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Interno	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label11
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	3401
Name:	Label11	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	850
Visible:	True	Width:	1440

Label: Label14

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Carotaggi	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label14

Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	18
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	480
HelpContextId:	0	Left:	2834
Name:	Label14	Section:	1
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	113
Visible:	True	Width:	1980

Label: Label16

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Numero Civico	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label16
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	963
Name:	Label16	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1984
Visible:	True	Width:	1305

Label: Label18

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Isola	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label18
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	3398
Name:	Label18	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1984
Visible:	True	Width:	1125

Label: Label20

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Segmento	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label20
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	5669
Name:	Label20	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1984
Visible:	True	Width:	1530

Label: Label22

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Riferita A	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label22
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	397
Name:	Label22	Section:	0
Special Effect:	Raised	Text Align:	General
Text Font Char Set:	0	Top:	4251
Visible:	True	Width:	855

Label: Label26

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Quota	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label26
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	6522
Name:	Label26	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	4251
Visible:	True	Width:	570

Label: Label34

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Assistente	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label34
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	2259
Name:	Label34	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	3118
Visible:	True	Width:	1125

Label: Label36

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Operatore	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label36
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold

ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	4524
Name:	Label36	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	3118
Visible:	True	Width:	1140

Label: Label38

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Tipo di Attrezzatura	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label38
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	2324
Name:	Label38	Section:	0
Special Effect:	Raised	Text Align:	General
Text Font Char Set:	0	Top:	4251
Visible:	True	Width:	1710

Label: Label40

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Profondità	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label40
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	4888
Name:	Label40	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	4251
Visible:	True	Width:	990

Text Box: Lunghezza

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Profondità
ControlType:	109	Decimal Places:	2
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Lunghezza
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Format:	Fixed	Height:	285
HelpContextId:	0	Left:	4875
Locked:	False	Name:	Lunghezza

Scroll Bars:	Neither	Section:	0
Special Effect:	Etched	Status Bar Text:	Quota assoluta
TabIndex:	12	TabStop:	True
Text Align:	Center	Text Font Char Set:	0
Top:	4517	Visible:	True
Width:	1035		

Text Box: Numero Civico

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Numero Civico
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Numero_Civico
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	963	Locked:	False
Name:	Numero Civico	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Numero civico del edificato più vicino	TabIndex:	5
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2254
Visible:	True	Width:	1305

Text Box: Operatore

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Operatore
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Operatore
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	4151	Locked:	False
Name:	Operatore	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Operatore	TabIndex:	9
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	3423
Visible:	True	Width:	1905

Label: Prova Penetrometrica Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Prova	ControlType:	100
Display When:	Always	Event Proc Prefix:	Prova_Penetrometrica_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	113
Name:	Prova Penetrometrica Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	850
Visible:	True	Width:	1125

Text Box: Quota

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Quota
ControlType:	109	Decimal Places:	2
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Quota
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Format:	Fixed	Height:	285
HelpContextId:	0	Left:	6462
Locked:	False	Name:	Quota
Scroll Bars:	Neither	Section:	0
Special Effect:	Etched	Status Bar Text:	Quota assoluta
TabIndex:	13	TabStop:	True
Text Align:	Center	Text Font Char Set:	0
Top:	4521	Visible:	True
Width:	675		

Text Box: Riferita A

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Riferita A
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Riferita_A
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0

Left:	170	Locked:	False
Name:	Riferita A	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Riferita A	TabIndex:	10
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	4534
Visible:	True	Width:	1365

Text Box: Tipo di Attrezzatura

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	16777215	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Tipo di Attrezzatura
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Tipo_di_Attrezzatura
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	2267	Locked:	False
Name:	Tipo di Attrezzatura	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Tipo di Attrezzatura	TabIndex:	11
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	4541
Visible:	True	Width:	1875

Code

```
 1  Attribute VB_Name = "Form_Carotaggi"
 2  Attribute VB_Creatable = True
 3  Attribute VB_PredeclaredId = True
 4  Attribute VB_Exposed = False
 5  Option Compare Database
 6  Option Explicit
 7
 8  Private Sub Codice_Prova_AfterUpdate()
 9
10  End Sub
```

User Permissions

admin

Group Permissions

Admins
Users

Properties

Allow Edits:	True	Allow Filters:	True
Allow Updating:	No	AllowAdditions:	True
AllowDeletions:	True	Auto Resize:	True
AutoCenter:	True	Border Style:	Sizable
Caption:	Prove Penetrometriche	CloseButton:	True
Control Box:	True	Count:	21
Cycle:	None	Data Entry:	False
DatasheetBackColor:	16777215	DatasheetCellsEffect:	Flat
DatasheetFontHeight:	10	DatasheetFontItalic:	False
DatasheetFontName:	Arial	DatasheetFontUnderline:	False
DatasheetFontWeight:	Normal	DatasheetForeColor:	0
DatasheetGridlinesBeha	Both	DatasheetGridlinesColor:	12632256
Date Created:	10/06/99 10.41.19	Default View:	Single Form
DividingLines:	True	Fast Laser Printing:	True
FilterOn:	False	FrozenColumns:	1
Grid X:	10	Grid Y:	10
HasModule:	True	HelpContextId:	0
InsideHeight:	3900	InsideWidth:	8010
KeyPreview:	False	Last Updated:	15/07/99 17.12.00
Layout for Print:	False	LogicalPageWidth:	9074
Max Button:	True	Min Button:	True
MinMaxButtons:	3	Modal:	False
NavigationButtons:	True	OrderByOn:	False
Owner:	admin	Palette Source:	(Custom)
Picture:	C:\PROGRAM FILES\MICROSOFT OFFICE\OFFICE\Bitmaps\Styles\stone.bmp	PictureAlignment:	5
PicturePalette:	`□	PictureSizeMode:	Clip
PictureTiling:	True	PictureType:	0
Pop Up:	False	Record Locks:	No Locks
Record Selectors:	True	Record Source:	Prove Penetrometriche
RecordsetType:	All Records	RowHeight:	Default
Scroll Bars:	Both	Shortcut Menu:	True
ShowGrid:	True	Timer Interval:	0
Views Allowed:	Both	Visible:	False
Whats This Button:	False	Width:	7731
WindowHeight:	4605	WindowWidth:	8430

Objects

Section: Detail

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	2891	In Selection:	False
Keep Together:	False	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormFooter

Back Color:	12632256	Can Grow:	False

Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormFooter	Force New Page:	None
Height:	0	In Selection:	False
Keep Together:	False	Name:	FormFooter
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormHeader

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormHeader	Force New Page:	None
Height:	737	In Selection:	False
Keep Together:	False	Name:	FormHeader
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Text Box: Codice Interno

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Interno
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Interno
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	2259	Locked:	False
Name:	Codice Interno	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice della prova nel rapporto	TabIndex:	2
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1573
Visible:	True	Width:	1200

Text Box: Codice Isola

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Isola
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Isola
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	4422	Locked:	False

Name:	Codice Isola	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice dell'isola dove si eseguita la prova	TabIndex:	6
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2537
Visible:	True	Width:	1065

Text Box: Codice Prova

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	915	Control Source:	Codice Prova
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Prova
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	686	Locked:	False
Name:	Codice Prova	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice unico della prova	TabIndex:	0
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	836
Visible:	True	Width:	900

List Box: Codice Rapporto

Back Color:	12632256	Border Color:	12632256
Border Line Style:	Solid	Border Style:	First Page
Border Width:	Hairline	Bound Column:	1
Column Count:	1	Column Heads:	False
Column Widths:	990	ColumnHidden:	False
ColumnOrder:	Default	ColumnWidth:	Default
Control Source:	Codice Rapporto	ControlType:	110
Display When:	Always	Enabled:	True
Event Proc Prefix:	Codice_Rapporto	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	283	HelpContextId:	0
Left:	2321	Locked:	False
MultiSelect:	No	Name:	Codice Rapporto
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Rapporti].[Codice Rapporto] FROM [Rapporti];
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice del rapporto dove si trova i dati della prova	TabIndex:	1
TabStop:	True	Text Font Char Set:	0
Top:	850	Visible:	True
Width:	1140		

Label: Codice Rapporto_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Codice Rapporto	ControlType:	100
Display When:	Always	Event Proc Prefix:	Codice_Rapporto_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	2097
Name:	Codice Rapporto_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	566
Visible:	True	Width:	1485

Text Box: Codice Segmento

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Segmento
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Segmento
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	6179	Locked:	False
Name:	Codice Segmento	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice del segmento dove si eseguita la prova	TabIndex:	7
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2537
Visible:	True	Width:	1530

Text Box: Data

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Data
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Data
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0

Height:	285	HelpContextId:	0
Left:	6859	Locked:	False
Name:	Data	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Data della prova	TabIndex:	4
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	270
Visible:	True	Width:	840

Label: Data Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Data	ControlType:	100
Display When:	Always	Event Proc Prefix:	Data_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	6859
Name:	Data Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	0
Visible:	True	Width:	840

Combo Box: Ditta

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	2
Column Heads:	False	Column Widths:	0;3015
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Ditta
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Ditta	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	284	HelpContextId:	0
Left:	3920	Limit To List:	True
List Rows:	8	List Width:	3015
Locked:	False	Name:	Ditta
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici Ditta].[Codice Ditta], [Codici Ditta].[Nome Ditta] FROM [Codici Ditta];
Section:	0	Special Effect:	Etched
Status Bar Text:	La ditta chi ha fatto questa prova	TabIndex:	3
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	849
Visible:	True	Width:	2200

Label: Ditta_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Ditta	ControlType:	100

Display When:	Always	Event Proc Prefix:	Ditta_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	4478
Name:	Ditta_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	566
Visible:	True	Width:	915

Label: Label11

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Interno	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label11
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	2139
Name:	Label11	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1303
Visible:	True	Width:	1440

Label: Label14

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Prove Penetrometriche	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label14
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	18
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	460
HelpContextId:	0	Left:	1700
Name:	Label14	Section:	1
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	113
Visible:	True	Width:	4025

Label: Label16

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Numero Civico	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label16
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	5272
Name:	Label16	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1530

Visible:	True	Width:	1305

Label: Label18

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Isola	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label18
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	4422
Name:	Label18	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	2267
Visible:	True	Width:	1065

Label: Label20

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Segmento	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label20
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	6179
Name:	Label20	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	2267
Visible:	True	Width:	1530

Label: Label22

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Riferita A	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label22
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	227
Name:	Label22	Section:	0
Special Effect:	Raised	Text Align:	General
Text Font Char Set:	0	Top:	2267
Visible:	True	Width:	855

Label: Label26

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Quota	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label26
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8

Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	1704
Name:	Label26	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	2267
Visible:	True	Width:	570

Text Box: Numero Civico

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Numero Civico
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Numero_Civico
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	5272	Locked:	False
Name:	Numero Civico	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Numero civico del edificato più vicino	TabIndex:	5
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1800
Visible:	True	Width:	1305

Label: Prova Penetrometrica Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Prova	ControlType:	100
Display When:	Always	Event Proc Prefix:	Prova_Penetrometrica_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	566
Name:	Prova Penetrometrica Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	566
Visible:	True	Width:	1125

Text Box: Quota

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Quota
ControlType:	109	Decimal Places:	Auto

Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Quota
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	1644	Locked:	False
Name:	Quota	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Quota assoluta	TabIndex:	9
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2537
Visible:	True	Width:	675

Text Box: Riferita A

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Riferita A
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Riferita_A
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	0	Locked:	False
Name:	Riferita A	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Riferita A	TabIndex:	8
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2550
Visible:	True	Width:	1365

Code

```
1  Attribute VB_Name = "Form_Prove Penetrometriche"
2  Attribute VB_Creatable = True
3  Attribute VB_PredeclaredId = True
4  Attribute VB_Exposed = False
5  Option Compare Database
6  Option Explicit
7
8  Private Sub Codice_Prova_AfterUpdate()
9
10 End Sub
```

User Permissions

admin

Group Permissions

Admins
Users

Properties

Allow Edits:	True	Allow Filters:	True
Allow Updating:	No	AllowAdditions:	True
AllowDeletions:	True	Auto Resize:	True
AutoCenter:	True	Border Style:	Sizable
Caption:	Rapporti	CloseButton:	True
Control Box:	True	Count:	13
Cycle:	None	Data Entry:	False
DatasheetBackColor:	16777215	DatasheetCellsEffect:	Flat
DatasheetFontHeight:	10	DatasheetFontItalic:	False
DatasheetFontName:	Arial	DatasheetFontUnderline:	False
DatasheetFontWeight:	Normal	DatasheetForeColor:	0
DatasheetGridlinesBeha	Both	DatasheetGridlinesColor:	12632256
Date Created:	10/06/99 10.39.45	Default View:	Single Form
DividingLines:	True	Fast Laser Printing:	True
FilterOn:	False	FrozenColumns:	1
Grid X:	10	Grid Y:	10
HasModule:	False	HelpContextId:	0
InsideHeight:	3435	InsideWidth:	7035
KeyPreview:	False	Last Updated:	15/07/99 19.23.18
Layout for Print:	False	LogicalPageWidth:	9074
Max Button:	True	Min Button:	True
MinMaxButtons:	3	Modal:	False
NavigationButtons:	True	OrderByOn:	False
Owner:	admin	Palette Source:	(Custom)
Picture:	C:\PROGRAM FILES\MICROSOFT OFFICE\OFFICE\Bitmaps\Styles\stone.bmp	PictureAlignment:	5
PicturePalette:	`□	PictureSizeMode:	Clip
PictureTiling:	True	PictureType:	0
Pop Up:	False	Record Locks:	No Locks
Record Selectors:	True	Record Source:	Rapporti
RecordsetType:	All Records	RowHeight:	Default
Scroll Bars:	Both	Shortcut Menu:	True
ShowGrid:	True	Timer Interval:	0
Views Allowed:	Both	Visible:	False
Whats This Button:	False	Width:	6746
WindowHeight:	4140	WindowWidth:	7455

Objects

Section: Detail

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	2777	In Selection:	False
Keep Together:	False	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormFooter

Back Color:	12632256	Can Grow:	False

Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormFooter	Force New Page:	None
Height:	0	In Selection:	False
Keep Together:	False	Name:	FormFooter
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormHeader

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormHeader	Force New Page:	None
Height:	680	In Selection:	False
Keep Together:	False	Name:	FormHeader
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Combo Box: Cantiere

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	2
Column Heads:	False	Column Widths:	0;2400
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Cantiere
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Cantiere	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	221	HelpContextId:	0
Left:	1692	Limit To List:	True
List Rows:	8	List Width:	2400
Locked:	False	Name:	Cantiere
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici Cantiere].[Codice Cantiere], [Codici Cantiere].[Cantiere] FROM [Codici Cantiere];
Section:	0	Special Effect:	Etched
Status Bar Text:	Cantiere	TabIndex:	4
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	2437
Visible:	True	Width:	2833

Label: Cantiere_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Cantiere	ControlType:	100
Display When:	Always	Event Proc Prefix:	Cantiere_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	270
HelpContextId:	0	Left:	2608
Name:	Cantiere_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	2154

Visible:	True	Width:	915

Label: Codice di Organizzazione Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Copertina del Rapporto	ControlType:	100
Display When:	Always	Event Proc Prefix:	Codice_di_Organizzazione_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	270
HelpContextId:	0	Left:	0
Name:	Codice di Organizzazione Label	Section:	0
Special Effect:	Raised	Text Align:	General
Text Font Char Set:	0	Top:	1360
Visible:	True	Width:	1980

Label: Codice Ditta_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Ditta	ControlType:	100
Display When:	Always	Event Proc Prefix:	Codice_Ditta_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	270
HelpContextId:	0	Left:	2495
Name:	Codice Ditta_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1360
Visible:	True	Width:	1080

Text Box: Codice Rapporto

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	2310	Control Source:	Codice Rapporto
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Rapporto
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	2552	Locked:	False
Name:	Codice Rapporto	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice unico del rapporto	TabIndex:	0
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	836
Visible:	True	Width:	855

Combo Box: Committente

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	2
Column Heads:	False	Column Widths:	0;3015
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Committente
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Committente	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	211	HelpContextId:	0
Left:	4195	Limit To List:	True
List Rows:	8	List Width:	3015
Locked:	False	Name:	Committente
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici Committente].[Codice Committente], [Codici Committente].[Nome Committente] FROM [Codici Committente];
Section:	0	Special Effect:	Etched
Status Bar Text:	Committente	TabIndex:	3
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1644
Visible:	True	Width:	2034

Label: Committente_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Committente	ControlType:	100
Display When:	Always	Event Proc Prefix:	Committente_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	270
HelpContextId:	0	Left:	4592
Name:	Committente_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1360
Visible:	True	Width:	1200

Text Box: Copertina del Rapporto

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	915	Control Source:	Copertina del Rapporto
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Copertina_del_Rapporto

FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	True
Font Weight:	Normal	ForeColor:	1279872587
Height:	285	HelpContextId:	0
Left:	0	Locked:	False
Name:	Copertina del Rapporto	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Un'immagine della copertina del rapporto	TabIndex:	1
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1630
Visible:	True	Width:	1980

Text Box: Data

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Data
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Data
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	6009	Locked:	False
Name:	Data	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Data del rapporto	TabIndex:	5
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	270
Visible:	True	Width:	735

Combo Box: Ditta

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	2
Column Heads:	False	Column Widths:	0;3045
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Ditta
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Ditta	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	223	HelpContextId:	0
Left:	2211	Limit To List:	True
List Rows:	8	List Width:	3045
Locked:	False	Name:	Ditta

Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici Ditta].[Codice Ditta], [Codici Ditta].[Nome Ditta] FROM [Codici Ditta];
Section:	0	Special Effect:	Etched
Status Bar Text:	La ditta chi ha fatto questo rapporto	TabIndex:	2
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1643
Visible:	True	Width:	1758

Label: Label10

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Data	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label10
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	270
HelpContextId:	0	Left:	6009
Name:	Label10	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	0
Visible:	True	Width:	690

Label: Label6

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Rapporti	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label6
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	18
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	516
HelpContextId:	0	Left:	2607
Name:	Label6	Section:	1
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	56
Visible:	True	Width:	1579

Label: Rapporto Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Rapporto	ControlType:	100
Display When:	Always	Event Proc Prefix:	Rapporto_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	13056	Height:	270
HelpContextId:	0	Left:	2267
Name:	Rapporto Label	Section:	0
Special Effect:	Raised	Text Align:	General
Text Font Char Set:	0	Top:	566
Visible:	True	Width:	1410

User Permissions

admin

Group Permissions

Admins
Users

Properties

Allow Edits:	True	Allow Filters:	True
Allow Updating:	No	AllowAdditions:	True
AllowDeletions:	True	Auto Resize:	True
AutoCenter:	True	Border Style:	Sizable
Caption:	Rapporti	CloseButton:	True
Control Box:	True	Count:	9
Cycle:	None	Data Entry:	False
DatasheetBackColor:	16777215	DatasheetCellsEffect:	Flat
DatasheetFontHeight:	10	DatasheetFontItalic:	False
DatasheetFontName:	Arial	DatasheetFontUnderline:	False
DatasheetFontWeight:	Normal	DatasheetForeColor:	0
DatasheetGridlinesBeha	Both	DatasheetGridlinesColor:	12632256
Date Created:	15/07/99 17.33.43	Default View:	Single Form
DividingLines:	True	Fast Laser Printing:	True
FilterOn:	False	FrozenColumns:	1
Grid X:	10	Grid Y:	10
HasModule:	False	HelpContextId:	0
InsideHeight:	2415	InsideWidth:	7035
KeyPreview:	False	Last Updated:	15/07/99 19.21.39
Layout for Print:	False	LogicalPageWidth:	9074
Max Button:	True	Min Button:	True
MinMaxButtons:	3	Modal:	False
NavigationButtons:	True	OrderBy:	Resistenze.[Codice Prova], Resistenze.Profondità, Resistenze.[Codice Resistenza]
OrderByOn:	True	Owner:	admin
Palette Source:	(Custom)	Picture:	C:\PROGRAM FILES\MICROSOFT OFFICE\OFFICE\Bitmaps\Styles\stone.bmp
PictureAlignment:	5	PicturePalette:	
PictureSizeMode:	Clip	PictureTiling:	True
PictureType:	0	Pop Up:	False
Record Locks:	No Locks	Record Selectors:	True
Record Source:	Resistenze	RecordsetType:	All Records
RowHeight:	Default	Scroll Bars:	Both
Shortcut Menu:	True	ShowGrid:	True
Timer Interval:	0	Views Allowed:	Both
Visible:	False	Whats This Button:	False
Width:	6746	WindowHeight:	3120
WindowWidth:	7455		

Objects

Section: Detail

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	1757	In Selection:	False
Keep Together:	False	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormFooter

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormFooter	Force New Page:	None
Height:	0	In Selection:	False
Keep Together:	False	Name:	FormFooter
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormHeader

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormHeader	Force New Page:	None
Height:	680	In Selection:	False
Keep Together:	False	Name:	FormHeader
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Text Box: Codice Prova

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	2310	Control Source:	Codice Prova
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Prova
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	2898	Locked:	False
Name:	Codice Prova	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice prova	TabIndex:	0
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	549
Visible:	True	Width:	915

Label: Label32

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Profondità	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label32
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	791
Name:	Label32	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	1125

Label: Label34

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Misura	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label34
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	4875
Name:	Label34	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	1170

Label: Label6

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Resistenze	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label6
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	18
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	510
HelpContextId:	0	Left:	2415
Name:	Label6	Section:	1
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	60
Visible:	True	Width:	1950

Text Box: Misura

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Misura
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Misura
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	5028	Locked:	False
Name:	Misura	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Misura	TabIndex:	3
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1385
Visible:	True	Width:	915

Text Box: Profondità

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Profondità
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Profondità
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	913	Locked:	False
Name:	Profondità	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Profondità (m)	TabIndex:	1
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1399
Visible:	True	Width:	915

Label: Rapporto Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Prova	ControlType:	100
Display When:	Always	Event Proc Prefix:	Rapporto_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	2655
Name:	Rapporto Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	285
Visible:	True	Width:	1380

Combo Box: Tipo di Resistenza

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	3
Column Heads:	False	Column Widths:	0;1905;645
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Resistenza
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Tipo_di_Resistenza	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	266	HelpContextId:	0
Left:	2322	Limit To List:	True

List Rows:	8	List Width:	2550
Locked:	False	Name:	Tipo di Resistenza
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici Resistenza].[Codice Resistenza], [Codici Resistenza].[Tipo di Resistenza], [Codici Resistenza].[Unità] FROM [Codici Resistenza];
Section:	0	Special Effect:	Etched
Status Bar Text:	Tipo di resistenza	TabIndex:	2
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1431
Visible:	True	Width:	2158

Label: Tipo di Resistenza_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Tipo di Resistenza	ControlType:	100
Display When:	Always	Event Proc Prefix:	Tipo_di_Resistenza_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	128	Height:	270
HelpContextId:	0	Left:	2551
Name:	Tipo di Resistenza_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	1650

User Permissions

admin

Group Permissions

Admins
Users

Properties

Allow Edits:	True	Allow Filters:	True
Allow Updating:	No	AllowAdditions:	True
AllowDeletions:	True	Auto Resize:	True
AutoCenter:	True	Border Style:	Sizable
Caption:	Rapporti	CloseButton:	True
Control Box:	True	Count:	9
Cycle:	None	Data Entry:	False
DatasheetBackColor:	16777215	DatasheetCellsEffect:	Flat
DatasheetFontHeight:	10	DatasheetFontItalic:	False
DatasheetFontName:	Arial	DatasheetFontUnderline:	False
DatasheetFontWeight:	Normal	DatasheetForeColor:	0
DatasheetGridlinesBeha	Both	DatasheetGridlinesColor:	12632256
Date Created:	15/07/99 17.22.56	Default View:	Single Form
DividingLines:	True	Fast Laser Printing:	True
FilterOn:	False	FrozenColumns:	1
Grid X:	10	Grid Y:	10
HasModule:	False	HelpContextId:	0
InsideHeight:	2415	InsideWidth:	7035
KeyPreview:	False	Last Updated:	15/07/99 17.33.15
Layout for Print:	False	LogicalPageWidth:	9074
Max Button:	True	Min Button:	True
MinMaxButtons:	3	Modal:	False
NavigationButtons:	True	OrderByOn:	True
Owner:	admin	Palette Source:	(Custom)
Picture:	C:\PROGRAM FILES\MICROSOFT OFFICE\OFFICE\Bitmaps\Styles\stone.bmp	PictureAlignment:	5
PicturePalette:		PictureSizeMode:	Clip
PictureTiling:	True	PictureType:	0
Pop Up:	False	Record Locks:	No Locks
Record Selectors:	True	Record Source:	Strati
RecordsetType:	All Records	RowHeight:	Default
Scroll Bars:	Both	Shortcut Menu:	True
ShowGrid:	True	Timer Interval:	0
Views Allowed:	Both	Visible:	False
Whats This Button:	False	Width:	6746
WindowHeight:	3120	WindowWidth:	7455

Objects

Section: Detail

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	1757	In Selection:	False
Keep Together:	False	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormFooter

Back Color:	12632256	Can Grow:	False

Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormFooter	Force New Page:	None
Height:	0	In Selection:	False
Keep Together:	False	Name:	FormFooter
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: FormHeader

Back Color:	12632256	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	FormHeader	Force New Page:	None
Height:	680	In Selection:	False
Keep Together:	False	Name:	FormHeader
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Text Box: Codice Carotaggio

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	2310	Control Source:	Codice Carotaggio
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Codice_Carotaggio
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	2898	Locked:	False
Name:	Codice Carotaggio	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Codice carotaggio	TabIndex:	0
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	549
Visible:	True	Width:	915

Label: Label32

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Profondità	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label32
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	791
Name:	Label32	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	1125

Label: Label34

Back Color:	12632256	Back Style:	Normal

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Spessore	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label34
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	2324
Name:	Label34	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	1140

Label: Label6

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Strati	ControlType:	100
Display When:	Always	Event Proc Prefix:	Label6
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	18
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	510
HelpContextId:	0	Left:	2595
Name:	Label6	Section:	1
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	60
Visible:	True	Width:	1590

Text Box: Profondità

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Profondità
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Profondità
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	913	Locked:	False
Name:	Profondità	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Profondità in cima al strato (m)	TabIndex:	1
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1399
Visible:	True	Width:	915

Label: Rapporto Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid

Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Carotaggio	ControlType:	100
Display When:	Always	Event Proc Prefix:	Rapporto_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	2551
Name:	Rapporto Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	283
Visible:	True	Width:	1590

Text Box: Spessore

AllowAutoCorrect:	True	Auto Tab:	False
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Spessore
ControlType:	109	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Enter Key Behavior:	False	Event Proc Prefix:	Spessore
FilterLookup:	1	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	285	HelpContextId:	0
Left:	2463	Locked:	False
Name:	Spessore	Scroll Bars:	Neither
Section:	0	Special Effect:	Etched
Status Bar Text:	Spessore del strato (m)	TabIndex:	2
TabStop:	True	Text Align:	Center
Text Font Char Set:	0	Top:	1392
Visible:	True	Width:	915

Combo Box: Tipo di Suolo

AllowAutoCorrect:	True	Auto Expand:	True
Back Color:	12632256	Back Style:	Normal
Border Color:	12632256	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Bound Column:	1	Column Count:	2
Column Heads:	False	Column Widths:	0;2460
ColumnHidden:	False	ColumnOrder:	Default
ColumnWidth:	Default	Control Source:	Codice Suolo
ControlType:	111	Decimal Places:	Auto
Display When:	Always	Enabled:	True
Event Proc Prefix:	Tipo_di_Suolo	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	280	HelpContextId:	0
Left:	4025	Limit To List:	True
List Rows:	8	List Width:	2460
Locked:	False	Name:	Tipo di Suolo
Row Source Type:	Table/Query	Row Source:	SELECT DISTINCTROW [Codici

	Suolo].[Codice Suolo], [Codici Suolo].[Tipo di Suolo] FROM [Codici Suolo];	Section:	0
Special Effect:	Etched	Status Bar Text:	Tipo di suolo
TabIndex:	3	TabStop:	True
Text Align:	General	Text Font Char Set:	0
Top:	1416	Visible:	True
Width:	1701		

Label: Tipo di Suolo_Label

Back Color:	12632256	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Tipo di Suolo	ControlType:	100
Display When:	Always	Event Proc Prefix:	Tipo_di_Suolo_Label
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	270
HelpContextId:	0	Left:	4081
Name:	Tipo di Suolo_Label	Section:	0
Special Effect:	Raised	Text Align:	Center
Text Font Char Set:	0	Top:	1133
Visible:	True	Width:	1245

User Permissions

admin

Group Permissions

Admins
Users

Properties

Caption:	Carotaggi1	Count:	28
Date Created:	20/07/99 15.45.14	DateGrouping:	Use System Settings
Fast Laser Printing:	True	FilterOn:	False
Grid X:	24	Grid Y:	24
GrpKeepTogether:	1	HasModule:	False
HelpContextId:	0	Last Updated:	27/07/99 18.10.36
Layout for Print:	True	LogicalPageWidth:	9360
Max Button:	True	Min Button:	True
OrderByOn:	False	Owner:	admin
Page Footer:	All Pages	Page Header:	All Pages
Palette Source:	(Default)	Picture:	(none)
PictureAlignment:	Always	PicturePages:	Form.
PictureSizeMode:	Clip	PictureTiling:	False
PictureType:	0	Record Locks:	No Locks
Record Source:	CarotaggiReport	Visible:	True
Width:	9496		

Objects

Section: Detail

Back Color:	16777215	Can Grow:	True
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	2040	In Selection:	False
Keep Together:	True	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Text Box: Assistente

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Assistente	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Assistente
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	5640
Name:	Assistente	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1020	Visible:	True
Width:	2220		

Label: Assistente Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Assistente	ControlType:	100
Event Proc Prefix:	Assistente_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman

Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	5640
Name:	Assistente Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	720
Visible:	True	Width:	2220

Rectangle: Box22

Back Color:	16777215	Back Style:	Transparent
Border Color:	8388608	Border Line Style:	Solid
Border Style:	First Page	Border Width:	2 pt
ControlType:	101	Event Proc Prefix:	Box22
Height:	1200	Left:	120
Name:	Box22	Section:	0
Special Effect:	Flat	Top:	120
Visible:	True	Width:	9060

Text Box: Codice Carotaggio

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Codice Carotaggio	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Codice_Carotaggio
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	120
Name:	Codice Carotaggio	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	420	Visible:	True
Width:	1500		

Label: Codice Carotaggio Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Carotaggio	ControlType:	100
Event Proc Prefix:	Codice_Carotaggio_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	120
Name:	Codice Carotaggio Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	120
Visible:	True	Width:	1500

Text Box: Codice Interno

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Codice Interno	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Codice_Interno

Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	1620
Name:	Codice Interno	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	420	Visible:	True
Width:	1620		

Label: Codice Interno Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Codice Interno	ControlType:	100
Event Proc Prefix:	Codice_Interno_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	1620
Name:	Codice Interno Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	120
Visible:	True	Width:	1620

Text Box: Data

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Data	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Data
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Format:	Short Date
Height:	300	Hide Duplicates:	False
Left:	8160	Name:	Data
Running Sum:	No	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	420
Visible:	True	Width:	1020

Label: Data Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Data	ControlType:	100
Event Proc Prefix:	Data_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	8160
Name:	Data Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	120

Visible:	True	Width:	1020

Label: Label31

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	m	ControlType:	100
Event Proc Prefix:	Label31	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	300	Left:	7080
Name:	Label31	Section:	0
Special Effect:	Flat	Text Align:	Left
Text Font Char Set:	0	Top:	420
Visible:	True	Width:	180

Label: Label32

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	m	ControlType:	100
Event Proc Prefix:	Label32	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	300	Left:	7980
Name:	Label32	Section:	0
Special Effect:	Flat	Text Align:	Left
Text Font Char Set:	0	Top:	420
Visible:	True	Width:	180

Text Box: Lunghezza

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Profondità	ControlType:	109
Decimal Places:	2	Event Proc Prefix:	Lunghezza
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Format:	Fixed
Height:	300	Hide Duplicates:	False
Left:	6300	Name:	Lunghezza
Running Sum:	No	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	420
Visible:	True	Width:	1140

Label: Lunghezza Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Profondità	ControlType:	100
Event Proc Prefix:	Lunghezza_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False

Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	6300
Name:	Lunghezza Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	120
Visible:	True	Width:	1140

Text Box: Nome Ditta

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Nome Ditta	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Nome_Ditta
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Format:	Short Date
Height:	300	Hide Duplicates:	False
Left:	3240	Name:	Nome Ditta
Running Sum:	No	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	420
Visible:	True	Width:	3060

Label: Nome Ditta Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Ditta	ControlType:	100
Event Proc Prefix:	Nome_Ditta_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	3240
Name:	Nome Ditta Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	120
Visible:	True	Width:	3060

Text Box: Numero Civico

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Numero Civico	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Numero_Civico
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	120
Name:	Numero Civico	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1020	Visible:	True
Width:	1500		

Label: Numero Civico Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Numero Civico	ControlType:	100
Event Proc Prefix:	Numero_Civico_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	120
Name:	Numero Civico Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	720
Visible:	True	Width:	1500

Text Box: Operatore

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Operatore	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Operatore
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	7860
Name:	Operatore	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1020	Visible:	True
Width:	1320		

Label: Operatore Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Operatore	ControlType:	100
Event Proc Prefix:	Operatore_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	7860
Name:	Operatore Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	720
Visible:	True	Width:	1320

Page Break: PageBreak38

ControlType:	118	Event Proc Prefix:	PageBreak38
Left:	0	Name:	PageBreak38
Section:	0	Top:	2040
Visible:	True		

Text Box: Quota

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid

Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Quota	ControlType:	109
Decimal Places:	2	Event Proc Prefix:	Quota
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Format:	Fixed
Height:	300	Hide Duplicates:	False
Left:	7440	Name:	Quota
Running Sum:	No	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	420
Visible:	True	Width:	720

Label: Quota Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Quota	ControlType:	100
Event Proc Prefix:	Quota_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	7440
Name:	Quota Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	120
Visible:	True	Width:	720

Text Box: Riferita A

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Riferita A	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Riferita_A
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	1620
Name:	Riferita A	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1020	Visible:	True
Width:	1980		

Label: Riferita A Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Riferita A	ControlType:	100
Event Proc Prefix:	Riferita_A_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608

Height:	300	Left:	1620
Name:	Riferita A Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	720
Visible:	True	Width:	1980

Subform/Subreport: Strati

Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	True	Can Shrink:	False
ControlType:	112	Event Proc Prefix:	Strati
Height:	420	Left:	120
Link Child Fields:	Codice Carotaggio	Link Master Fields:	Codice Carotaggio
Name:	Strati	Section:	0
Source Object:	Report.Strati	Special Effect:	Flat
Top:	1500	Visible:	True
Width:	9376		

Label: Strati Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Strati	ControlType:	100
Event Proc Prefix:	Strati_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman
Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	120
Name:	Strati Label	Section:	0
Special Effect:	Flat	Text Align:	General
Text Font Char Set:	0	Top:	1260
Visible:	False	Width:	570

Text Box: Tipo di Attrezzatura

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Tipo di Attrezzatura	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Tipo_di_Attrezzatura
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	3600
Name:	Tipo di Attrezzatura	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1020	Visible:	True
Width:	2040		

Label: Tipo di Attrezzatura Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Caption:	Tipo di Attrezzatura	ControlType:	100
Event Proc Prefix:	Tipo_di_Attrezzatura_Label	Font Bold:	Yes
Font Italic:	True	Font Name:	Times New Roman

Font Size:	11	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	300	Left:	3600
Name:	Tipo di Attrezzatura Label	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	720
Visible:	True	Width:	2040

User Permissions

admin

Group Permissions

Admins
Users

Properties

Count:	27	Date Created:	20/07/99 16.50.19
DateGrouping:	Use System Settings	Fast Laser Printing:	True
FilterOn:	False	Grid X:	24
Grid Y:	24	GrpKeepTogether:	1
HasModule:	False	HelpContextId:	0
Last Updated:	27/07/99 18.10.36	Layout for Print:	True
LogicalPageWidth:	9526	Max Button:	True
Min Button:	True	OrderByOn:	False
Owner:	admin	Page Footer:	All Pages
Page Header:	All Pages	Palette Source:	(Default)
Picture:	(none)	PictureAlignment:	Always
PicturePages:	Form.	PictureSizeMode:	Clip
PictureTiling:	False	PictureType:	0
Record Locks:	No Locks	Record Source:	RapportiReport
Visible:	True	Width:	9360

Objects

Section: Detail

Back Color:	16777215	Can Grow:	True
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	30120	In Selection:	False
Keep Together:	True	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Rectangle: Box13

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	101	Event Proc Prefix:	Box13
Height:	300	Left:	180
Name:	Box13	Section:	0
Special Effect:	Flat	Top:	12038
Visible:	True	Width:	9000

Rectangle: Box5

Back Color:	9868950	Back Style:	Normal
Border Color:	128	Border Line Style:	Solid
Border Style:	First Page	Border Width:	2 pt
ControlType:	101	Event Proc Prefix:	Box5
Height:	1080	Left:	0
Name:	Box5	Section:	0
Special Effect:	Flat	Top:	11858
Visible:	True	Width:	9360

Subform/Subreport: Carotaggi

Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	True	Can Shrink:	False
ControlType:	112	Event Proc Prefix:	Carotaggi
Height:	2159	Left:	0
Link Child Fields:	Codice Rapporto	Link Master Fields:	Codice Rapporto

Name:	Carotaggi	Section:	0
Source Object:	Report.Carotaggi	Special Effect:	Flat
Top:	27216	Visible:	True
Width:	9181		

Label: Carotaggi Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Carotaggi	ControlType:	100
Event Proc Prefix:	Carotaggi_Label	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	8	Font Underline:	False
Font Weight:	Normal	ForeColor:	0
Height:	225	Left:	0
Name:	Carotaggi Label	Section:	0
Special Effect:	Flat	Text Align:	General
Text Font Char Set:	0	Top:	26976
Visible:	False	Width:	765

Bound Object Frame: Grande Mappa

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Control Source:	Grande Mappa	ControlType:	108
DisplayType:	False	Event Proc Prefix:	Grande_Mappa
Height:	5265	Left:	0
Name:	Grande Mappa	OLEType:	None
OLETypeAllowed:	Either	Section:	0
Size Mode:	Stretch	Special Effect:	Flat
Top:	14173	Update Options:	Automatic
Verb:	0	Visible:	True
Width:	9045		

Label: Label0

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Insula S.p.A.	ControlType:	100
Event Proc Prefix:	Label0	Font Bold:	Yes
Font Italic:	False	Font Name:	Arial
Font Size:	20	Font Underline:	False
Font Weight:	Bold	ForeColor:	13209
Height:	540	Left:	3590
Name:	Label0	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	2645
Visible:	True	Width:	2580

Label: Label28

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Ditta	ControlType:	100
Event Proc Prefix:	Label28	Font Bold:	Yes
Font Italic:	False	Font Name:	Arial
Font Size:	12	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608

Height:	360	Left:	1380
Name:	Label28	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	12038
Visible:	True	Width:	600

Label: Label30

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Committente	ControlType:	100
Event Proc Prefix:	Label30	Font Bold:	Yes
Font Italic:	False	Font Name:	Arial
Font Size:	12	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	330	Left:	3900
Name:	Label30	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	12038
Visible:	True	Width:	1605

Label: Label31

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Cantiere	ControlType:	100
Event Proc Prefix:	Label31	Font Bold:	Yes
Font Italic:	False	Font Name:	Arial
Font Size:	12	Font Underline:	False
Font Weight:	Bold	ForeColor:	8388608
Height:	330	Left:	7140
Name:	Label31	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	12038
Visible:	True	Width:	1080

Label: Label38

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Mappa dei Carotaggi (vasta)	ControlType:	100
Event Proc Prefix:	Label38	Font Bold:	No
Font Italic:	False	Font Name:	Arial
Font Size:	14	Font Underline:	False
Font Weight:	Normal	ForeColor:	128
Height:	375	Left:	2932
Name:	Label38	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	13605
Visible:	True	Width:	3600

Label: Label39

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Mappa dei Carotaggi (limitata)	ControlType:	100
Event Proc Prefix:	Label39	Font Bold:	No

Font Italic:	False	Font Name:	Arial
Font Size:	14	Font Underline:	False
Font Weight:	Normal	ForeColor:	128
Height:	430	Left:	2834
Name:	Label39	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	20409
Visible:	True	Width:	3825

Line: Line15

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line15
Height:	300	Left:	3180
Line Slant:	True	Name:	Line15
Section:	0	Special Effect:	Flat
Top:	12038	Visible:	True
Width:	0		

Line: Line16

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line16
Height:	300	Left:	6180
Line Slant:	True	Name:	Line16
Section:	0	Special Effect:	Flat
Top:	12038	Visible:	True
Width:	0		

Line: Line18

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line18
Height:	0	Left:	180
Line Slant:	False	Name:	Line18
Section:	0	Special Effect:	Flat
Top:	12698	Visible:	True
Width:	9000		

Line: Line20

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line20
Height:	360	Left:	9180
Line Slant:	True	Name:	Line20
Section:	0	Special Effect:	Flat
Top:	12338	Visible:	True
Width:	0		

Line: Line21

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line21
Height:	360	Left:	6180
Line Slant:	True	Name:	Line21
Section:	0	Special Effect:	Flat
Top:	12338	Visible:	True
Width:	0		

Line: Line22

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line22
Height:	360	Left:	3180
Line Slant:	True	Name:	Line22
Section:	0	Special Effect:	Flat
Top:	12338	Visible:	True
Width:	0		

Line: Line23

Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
ControlType:	102	Event Proc Prefix:	Line23
Height:	360	Left:	180
Line Slant:	True	Name:	Line23
Section:	0	Special Effect:	Flat
Top:	12338	Visible:	True
Width:	0		

Image: logo

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
ControlType:	103	Event Proc Prefix:	logo
Height:	2595	ImageHeight:	2534
ImageWidth:	2549	Left:	3600
Name:	logo	Picture:	A:\Insula_Logo_big.gif
PictureAlignment:	Always	PictureType:	0
Section:	0	Size Mode:	Clip
Special Effect:	Flat	Top:	60
Visible:	True	Width:	2580

Page Break: PageBreak24

ControlType:	118	Event Proc Prefix:	PageBreak24
Left:	0	Name:	PageBreak24
Section:	0	Top:	12960
Visible:	True		

Page Break: PageBreak34

ControlType:	118	Event Proc Prefix:	PageBreak34
Left:	0	Name:	PageBreak34
Section:	0	Top:	27212
Visible:	True		

Bound Object Frame: Piccola Mappa

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Control Source:	Piccola Mappa	ControlType:	108
DisplayType:	False	Event Proc Prefix:	Piccola_Mappa
Height:	5685	Left:	9
Name:	Piccola Mappa	OLEType:	None
OLETypeAllowed:	Either	Section:	0
Size Mode:	Stretch	Special Effect:	Flat
Top:	20975	Update Options:	Automatic
Verb:	0	Visible:	True
Width:	9060		

Text Box: Text1

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Data	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Text1
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	10
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	300
Hide Duplicates:	False	Left:	8505
Name:	Text1	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1140	Visible:	True
Width:	855		

Text Box: Text11

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Cantiere	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Text11
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	360
Hide Duplicates:	False	Left:	6180
Name:	Text11	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	12338	Visible:	True
Width:	3000		

Text Box: Text3

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Codice Rapporto	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Text3
Font Bold:	Yes	Font Italic:	False
Font Name:	Arial	Font Size:	10
Font Underline:	False	Font Weight:	Bold
ForeColor:	8388608	Height:	300
Hide Duplicates:	False	Left:	0
Name:	Text3	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	1140	Visible:	True
Width:	1140		

Text Box: Text7

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline

Can Grow:	False	Can Shrink:	False
Control Source:	Nome Ditta	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Text7
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	360
Hide Duplicates:	False	Left:	180
Name:	Text7	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	12338	Visible:	True
Width:	3000		

Text Box: Text9

Back Color:	16777215	Back Style:	Normal
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Nome Committente	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Text9
Font Bold:	No	Font Italic:	False
Font Name:	Arial	Font Size:	8
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	360
Hide Duplicates:	False	Left:	3180
Name:	Text9	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	12338	Visible:	True
Width:	3000		

User Permissions

admin

Group Permissions

Admins
Users

Properties

Caption:	Strati1	Count:	12
Date Created:	20/07/99 17.23.13	DateGrouping:	Use System Settings
Fast Laser Printing:	True	FilterOn:	False
Grid X:	24	Grid Y:	24
GrpKeepTogether:	1	HasModule:	False
HelpContextId:	0	Last Updated:	26/07/99 23.29.09
Layout for Print:	True	LogicalPageWidth:	9360
Max Button:	True	Min Button:	True
OrderByOn:	False	Owner:	admin
Page Footer:	All Pages	Page Header:	All Pages
Palette Source:	(Default)	Picture:	(none)
PictureAlignment:	Always	PicturePages:	Form.
PictureSizeMode:	Clip	PictureTiling:	False
PictureType:	0	Record Locks:	No Locks
Record Source:	StratiReport	Visible:	True
Width:	9360		

Objects

Group Level 0

Control Source:	Codice Carotaggio	GroupFooter:	False
GroupHeader:	True	GroupInterval:	1
GroupOn:	Each Value	Keep Together:	No
SortOrder:	False		

Group Level 1

Control Source:	Profondità	GroupFooter:	False
GroupHeader:	False	GroupInterval:	1
GroupOn:	Each Value	Keep Together:	No
SortOrder:	False		

Section: Detail

Back Color:	16777215	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	Detail	Force New Page:	None
Height:	420	In Selection:	False
Keep Together:	True	Name:	Detail
NewRowOrCol:	None	Special Effect:	Flat
Visible:	True		

Section: GroupHeader0

Back Color:	16777215	Can Grow:	False
Can Shrink:	False	Display When:	Always
Event Proc Prefix:	GroupHeader0	Force New Page:	None
Height:	480	In Selection:	False
Keep Together:	True	Name:	GroupHeader0
NewRowOrCol:	None	RepeatSection:	False
Special Effect:	Flat	Visible:	True

Text Box: Codice Carotaggio

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	First Page	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False

Control Source:	Codice Carotaggio	ControlType:	109
Decimal Places:	0	Event Proc Prefix:	Codice_Carotaggio
Font Bold:	No	Font Italic:	False
Font Name:	Times New Roman	Font Size:	9
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	7020
Name:	Codice Carotaggio	Running Sum:	No
Section:	5	Special Effect:	Flat
Text Align:	General	Text Font Char Set:	0
Top:	60	Visible:	False
Width:	2310		

Label: Codice Carotaggio Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Codice Carotaggio	ControlType:	100
Event Proc Prefix:	Codice_Carotaggio_Label	Font Bold:	Yes
Font Italic:	False	Font Name:	arial
Font Size:	9	Font Underline:	False
Font Weight:	Bold	ForeColor:	128
Height:	285	Left:	5040
Name:	Codice Carotaggio Label	Section:	5
Special Effect:	Flat	Text Align:	Left
Text Font Char Set:	0	Top:	60
Visible:	False	Width:	1860

Line: Line15

Border Color:	128	Border Line Style:	Solid
Border Style:	First Page	Border Width:	2 pt
ControlType:	102	Event Proc Prefix:	Line15
Height:	0	Left:	120
Line Slant:	False	Name:	Line15
Section:	5	Special Effect:	Flat
Tag:	DetachedLabel	Top:	90
Visible:	True	Width:	4800

Line: Line16

Border Color:	128	Border Line Style:	Solid
Border Style:	First Page	Border Width:	2 pt
ControlType:	102	Event Proc Prefix:	Line16
Height:	0	Left:	120
Line Slant:	False	Name:	Line16
Section:	5	Special Effect:	Flat
Tag:	DetachedLabel	Top:	60
Visible:	True	Width:	4800

Line: Line17

Border Color:	128	Border Line Style:	Solid
Border Style:	First Page	Border Width:	2 pt
ControlType:	102	Event Proc Prefix:	Line17
Height:	0	Left:	120
Line Slant:	False	Name:	Line17
Section:	5	Special Effect:	Flat
Tag:	DetachedLabel	Top:	345
Visible:	True	Width:	4800

Line: Line18

Border Color:	128	Border Line Style:	Solid
Border Style:	First Page	Border Width:	2 pt
ControlType:	102	Event Proc Prefix:	Line18
Height:	0	Left:	120
Line Slant:	False	Name:	Line18
Section:	5	Special Effect:	Flat
Tag:	DetachedLabel	Top:	375
Visible:	True	Width:	4800

Text Box: Profondità

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Profondità	ControlType:	109
Decimal Places:	2	Event Proc Prefix:	Profondità
Font Bold:	No	Font Italic:	False
Font Name:	Times New Roman	Font Size:	9
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Format:	Fixed
Height:	300	Hide Duplicates:	False
Left:	240	Name:	Profondità
Running Sum:	No	Section:	0
Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	60
Visible:	True	Width:	1185

Label: Profondità Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Profondità (m)	ControlType:	100
Event Proc Prefix:	Profondità_Label	Font Bold:	Yes
Font Italic:	False	Font Name:	arial
Font Size:	9	Font Underline:	False
Font Weight:	Bold	ForeColor:	128
Height:	360	Left:	188
Name:	Profondità Label	Section:	5
Special Effect:	Flat	Tag:	DetachedLabel
Text Align:	Center	Text Font Char Set:	0
Top:	96	Visible:	True
Width:	1380		

Text Box: Spessore

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Spessore	ControlType:	109
Decimal Places:	2	Event Proc Prefix:	Spessore
Font Bold:	No	Font Italic:	False
Font Name:	Times New Roman	Font Size:	9
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Format:	Fixed
Height:	300	Hide Duplicates:	False
Left:	1800	Name:	Spessore
Running Sum:	No	Section:	0

Special Effect:	Flat	Text Align:	Center
Text Font Char Set:	0	Top:	60
Visible:	True	Width:	1185

Label: Spessore Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Spessore (m)	ControlType:	100
Event Proc Prefix:	Spessore_Label	Font Bold:	Yes
Font Italic:	False	Font Name:	arial
Font Size:	9	Font Underline:	False
Font Weight:	Bold	ForeColor:	128
Height:	345	Left:	1748
Name:	Spessore Label	Section:	5
Special Effect:	Flat	Tag:	DetachedLabel
Text Align:	Center	Text Font Char Set:	0
Top:	109	Visible:	True
Width:	1380		

Text Box: Tipo di Suolo

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Can Grow:	False	Can Shrink:	False
Control Source:	Tipo di Suolo	ControlType:	109
Decimal Places:	Auto	Event Proc Prefix:	Tipo_di_Suolo
Font Bold:	No	Font Italic:	False
Font Name:	Times New Roman	Font Size:	9
Font Underline:	False	Font Weight:	Normal
ForeColor:	0	Height:	300
Hide Duplicates:	False	Left:	3120
Name:	Tipo di Suolo	Running Sum:	No
Section:	0	Special Effect:	Flat
Text Align:	Center	Text Font Char Set:	0
Top:	60	Visible:	True
Width:	2310		

Label: Tipo di Suolo Label

Back Color:	16777215	Back Style:	Transparent
Border Color:	0	Border Line Style:	Solid
Border Style:	All Pages	Border Width:	Hairline
Caption:	Tipo di Suolo	ControlType:	100
Event Proc Prefix:	Tipo_di_Suolo_Label	Font Bold:	Yes
Font Italic:	False	Font Name:	arial
Font Size:	9	Font Underline:	False
Font Weight:	Bold	ForeColor:	128
Height:	330	Left:	3118
Name:	Tipo di Suolo Label	Section:	5
Special Effect:	Flat	Tag:	DetachedLabel
Text Align:	Center	Text Font Char Set:	0
Top:	96	Visible:	True
Width:	2220		

User Permissions

admin

Group Permissions

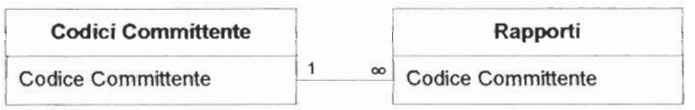
Admins
Users

Relationships

CarotaggiStrati

:	One-To-Many
Attributes:	Enforced, Cascade Updates

Codice CommittenteRapporti



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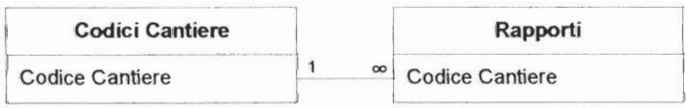
Attributes:	Enforced, Cascade Updates

Codici CantiereRapporti



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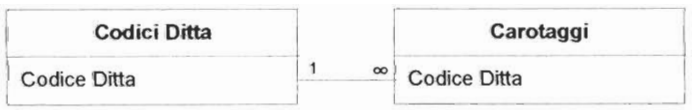
Attributes:	Enforced, Cascade Updates

Codici DittaCarotaggi



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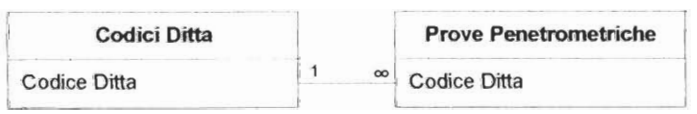
Codici DittaProve Penetrometriche



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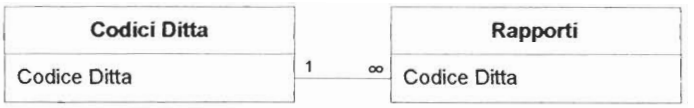
Codici DittaRapporti



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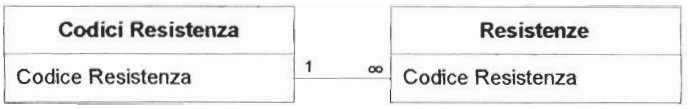
Attributes:	One-To-Many

Codici ResistenzaResistenze



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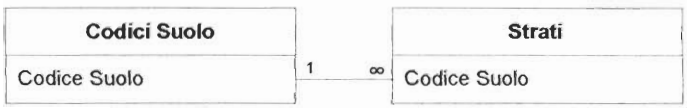
Codici SuoloStrati



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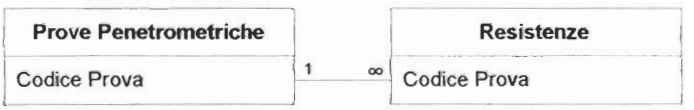
Prove PenetrometricheResistenze



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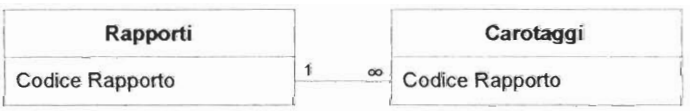
RapportiCarotaggi



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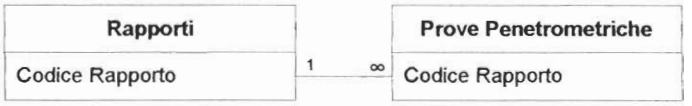
RapportiProve Penetrometriche



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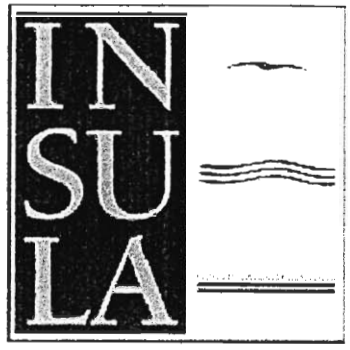
Appendix E Presentation Slides

WORCESTER POLYTECHNIC INSTITUTE



Venice Underground

Nicholas Allgaier
John Bottino
Scott Kimbrel
Garrett Sutton

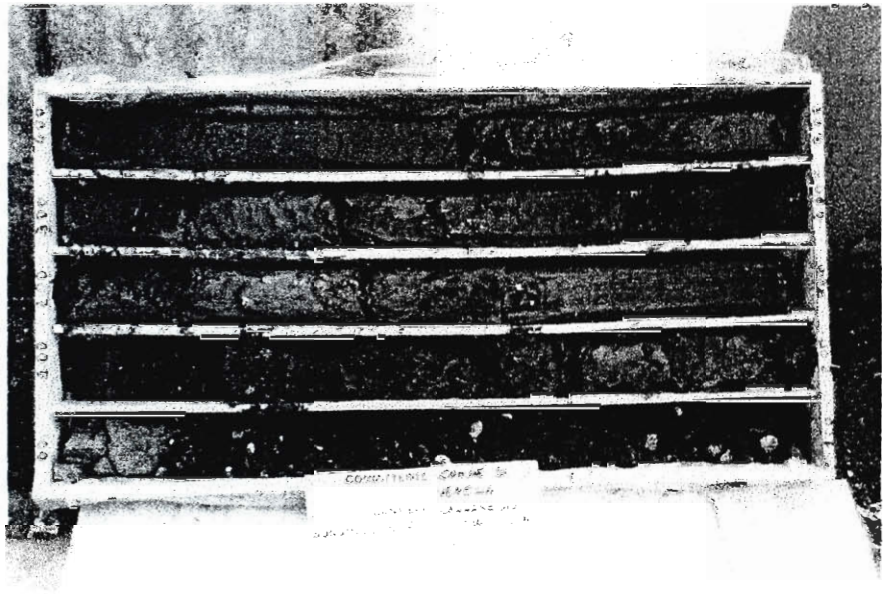
Advisors:
Fabio Carrera Stephen Weininger

Insula S.p.A.

- Founded in 1997
- 52% Muncipality of Venice
- Organizes and manages maintenance in Venice

Introduction

- Reasons for soil exploration
  - Determines how maintenance is conducted
  - Building foundations, canal walls
- Soil testing
  - Direct methods
  - Indirect methods
  - Creating soil reports

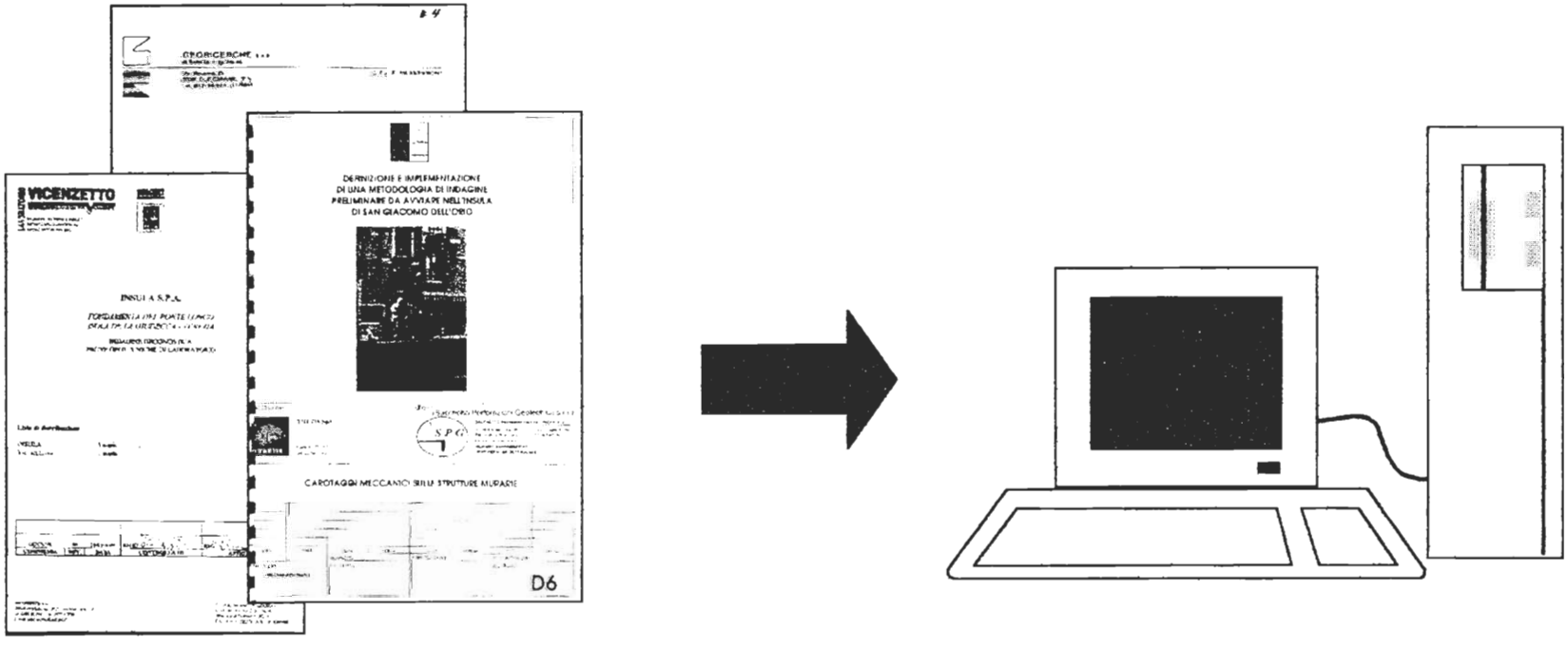


Problems With Current System

- No standardization
  - Many companies, all different report formats
  - Difficult to find test information
- Total distribution of test sites unknown
  - Conduct unnecessary tests, re-testing
  - Cost increases
- Samples have no common height reference
  - Need reference to Mareographic Zero

Project Goals

- Computerize soil information
  - Database
  - Mapping
- Help to develop standard



Soil Core Sample Page

GEORICERCHE S.A.S.
di STELLA dr. LUIGI ANTONIO
VIA MEZZAVIA, 63
35020 CARRARA S. GIORGIO (PD)
Tel. 049/9125122-9125045

COMMITTENTE COMUNE DI VENEZIA

LOCALITA' CAMPIELLO DE LE CHIOVERE

SONDAGGIO N° 2 **QUOTA P.C.** -0.20 DA PC **DATA** 26.03.97

TAV. B 2

CAMPIONI		CAMPIONATORE				DATA	LIVELLO H_2O DA P.C.	PROF. FORO	PROF. RIVEST.
		A PISTONE	A PARETI SOTTILI	A PARETI GROSSE					
INDISTURBATI	I	○			A ROTAZIONE	01.04	Sera		
RIMANEGGIATI RAPPRESENTATIVI O DISTURBATI	V		■	■	A PERCUSSIONE		Mattino 1.80	PIEZ.	
RIMANEGGIATI NON SIGNIFICATIVI	W	●	▮	▮	A PRESSIONE		Sera		
							Mattino		

ATTREZZO DI PERFORAZIONE: CAROTIERE SEMPLICE
RIVESTIMENTO: Ø 127 mm
ASSISTENTE: DOTT. S. MORO
OPERATORE: SIG. G. VERONESE
Materiale riposto in n° 3 cassette catalogatrici

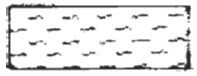
QUOTA DA P.C.	STRATIG.	CAMPIONI TIPO	CAMPIONI NUMERO	CAMPIONI PROF.	PENETR. STATICA (kg/cm²)	PENETR. DINAMICA (colpi/cm²)	R.P.T. Rd	R.P.T. n	DESCRIZIONE STRATIGRAFICA	% CAROTAGGIO	PROFONDITA' DI MANOVRA	R.Q.D.	STRUMENTAZ. TIPO	STRUMENTAZ. PROF.
									RIPORTO GHIAIOSO SABBIOSO					
2.00									ARGILLA CON ELEMENTI DI RIPORTO					
4.80					0.4	0.15			ARGILLA ORGANICA RICCA DI GUSCI DI BIVALVI					
5.80					4.5	0.67			ARGILLA LIMOSA COMPATTA DI COLORE GRIGIO-NOCCIOLA					
					3.1	0.43								
					2.2	0.23								
9.20					0.5				SABBIA MEDIO-FINE LIMOSA					10m
10.80									ARGILLA DEB. LIMOSA MOLLE CON LIVELLI DI TORBA					
									SABBIA MEDIO-FINE E LIMO. LIVELLO ARGILLOSO A m. 11.80					
12.00									SABBIA MEDIO-FINE LIMOSA					
13.50									FINE SONDAGGIO					

AGI Standard?

SIMBOLOGIA GRAFICA

PER LE TERRE E PER GLI AMMASSI ROCCIOSI


Argilla

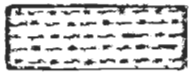

Limo


Sabbia

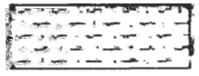

Torba

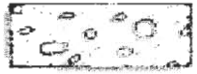

Ghiaia


Argilla limosa


Limo argilloso


Sabbia limosa


Limo sabbioso


Ghiaia con sabbia


Marna


Arenaria


Calcare

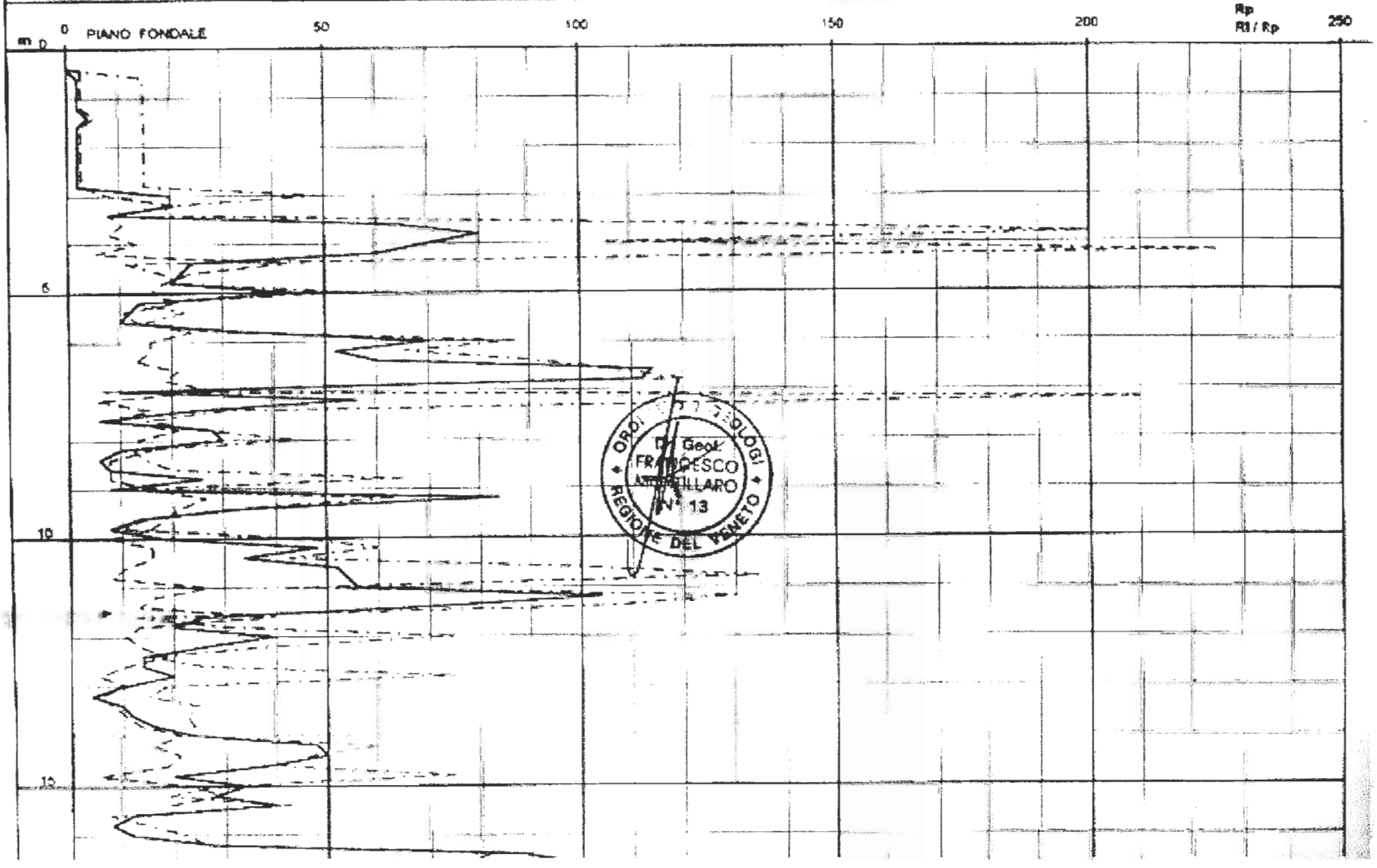

Tufo


Basalto


Rocce ignee effusive

Penetrometric Test Page

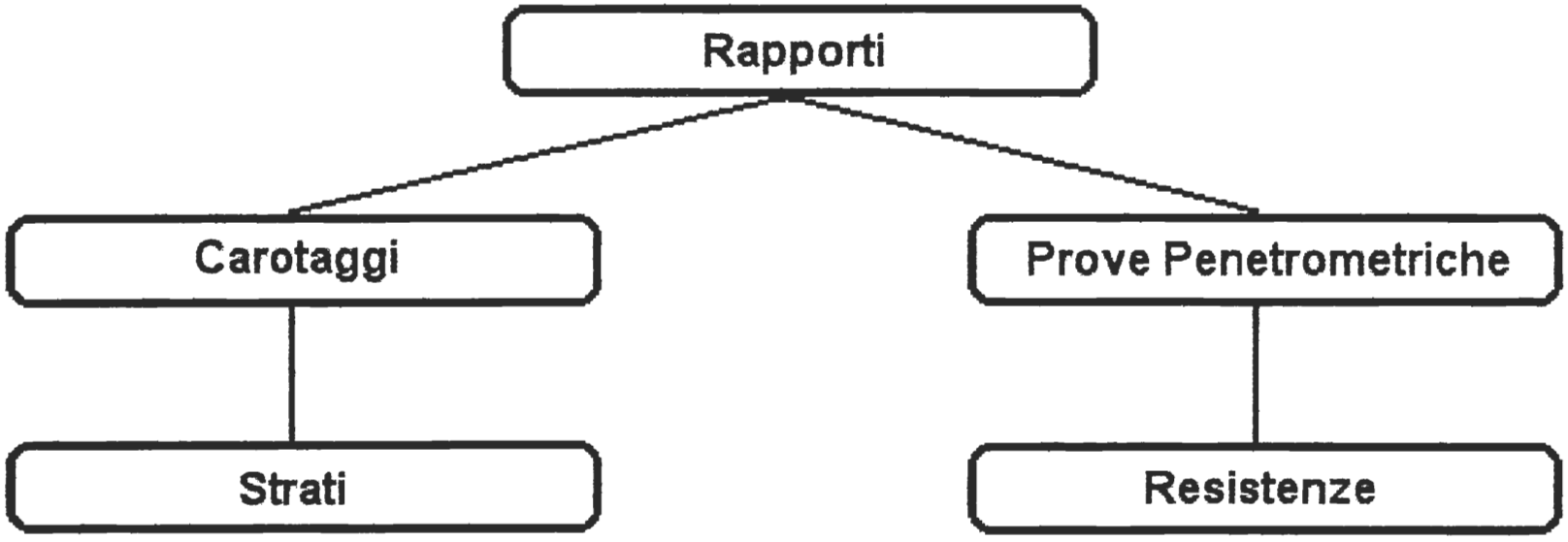
Committente:	INSULA S.p.A.	Prova n°: CPT 1	Rl Resistenza laterale locale kg/cm²
Cantiere:	INSULA DI S. GIOVANNI IN BRAGOLA-VENEZIA		Rp Resistenza alla punta kg/cm²
Ubicazione Prova	Vedi Planimetria	Data: 11/12/97	Rp / Rl Rapporto Rp su Rl
Battente d'acqua	2.30 m		
Ora:	11.00		



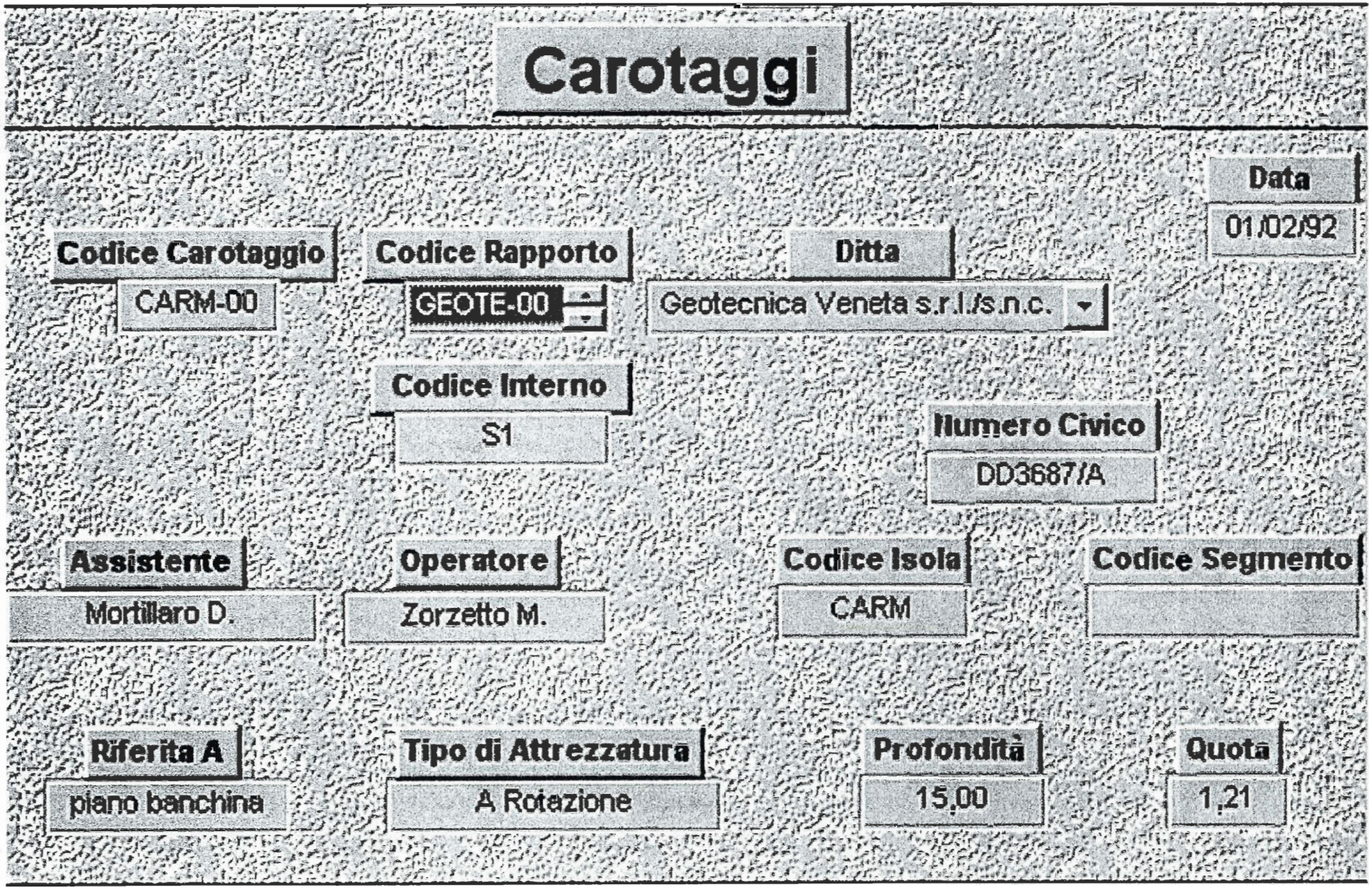
Applications of the Database

- Report Cataloguing
- Standardization
- *Complete* source for soil sample/test information
- Soil Mapping

Database Structure



Carotaggi Form



GEOTE-00

Insula S.p.A.

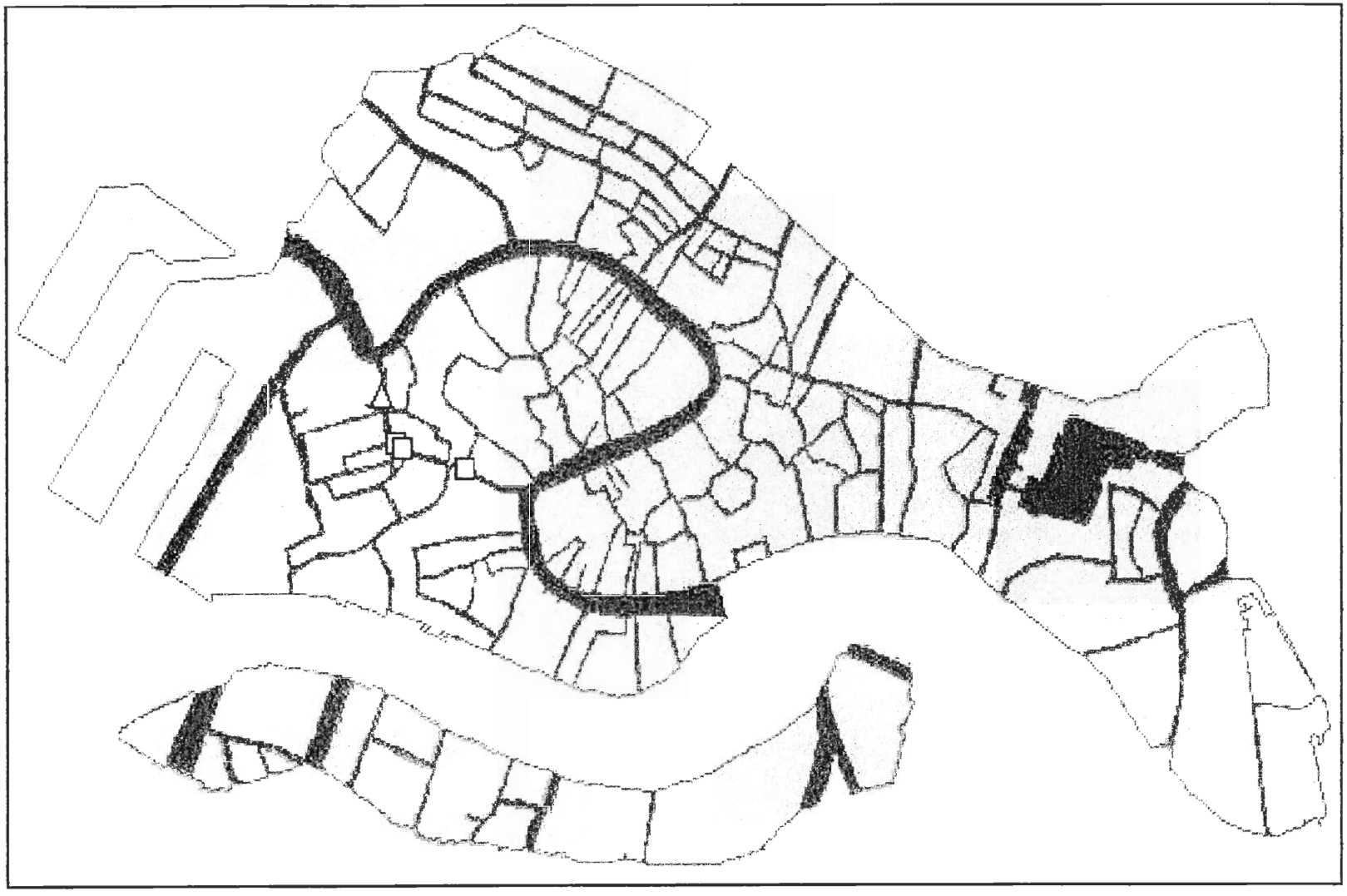
01/07/92

Ditta	Committente	Cantiere
Geotecnica Veneta s.r.l./s.n.c.	Amministrazione Comunale di Venezia	Rio Novo

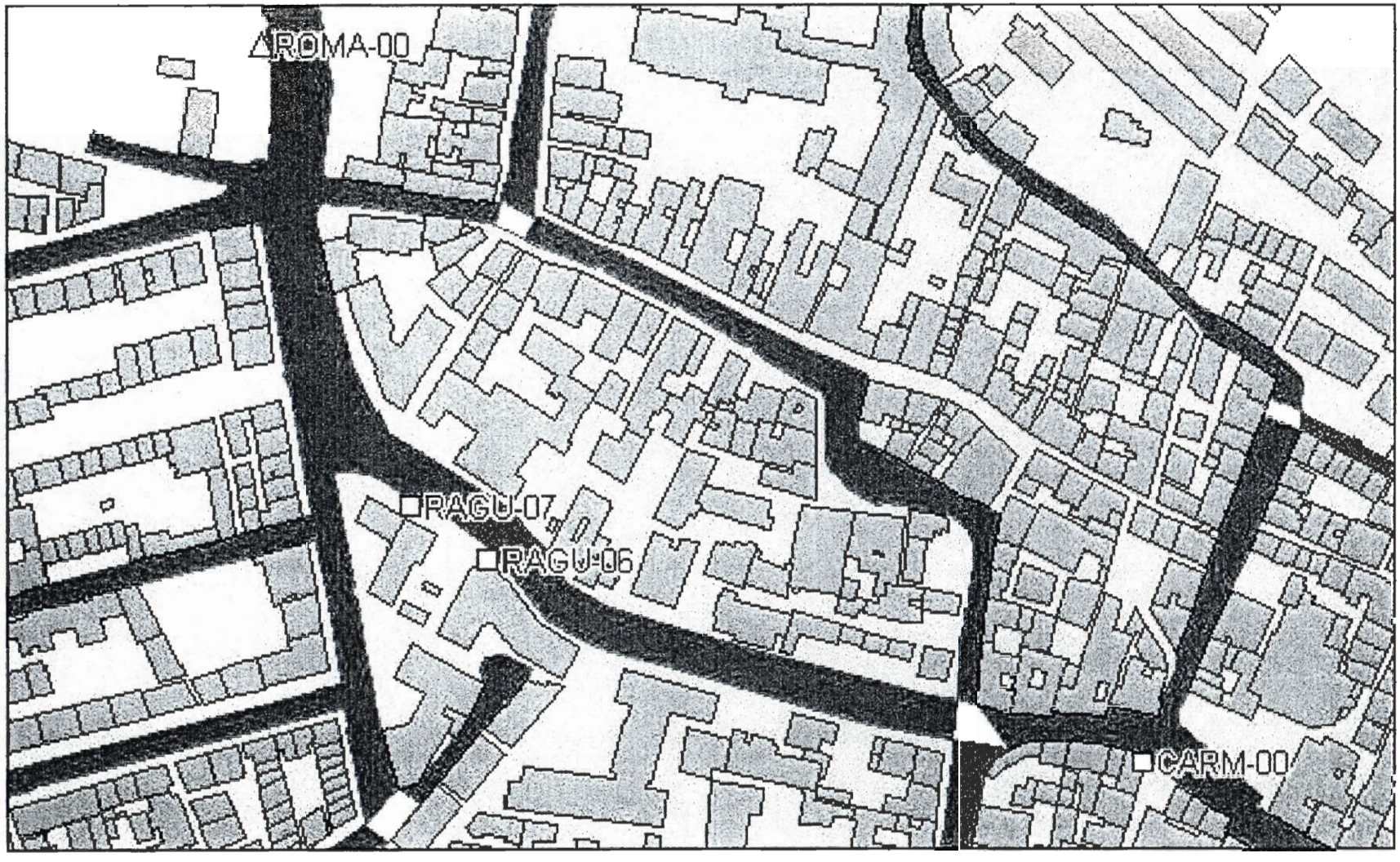
Report Cover

- Unique report code
- Date
- Ditta
- Committente
- Cantiere

Large Scale Map



Small Scale Map



Report For One Sample

Carotaggio	*Codice Interno*	*Ditta*	*Profondità*	*Quota*	*Data*
CARM-00	S1	Geotecnica Veneta s.r.l./s.n.c.	'5,00 m	1,21 m	01/02/92

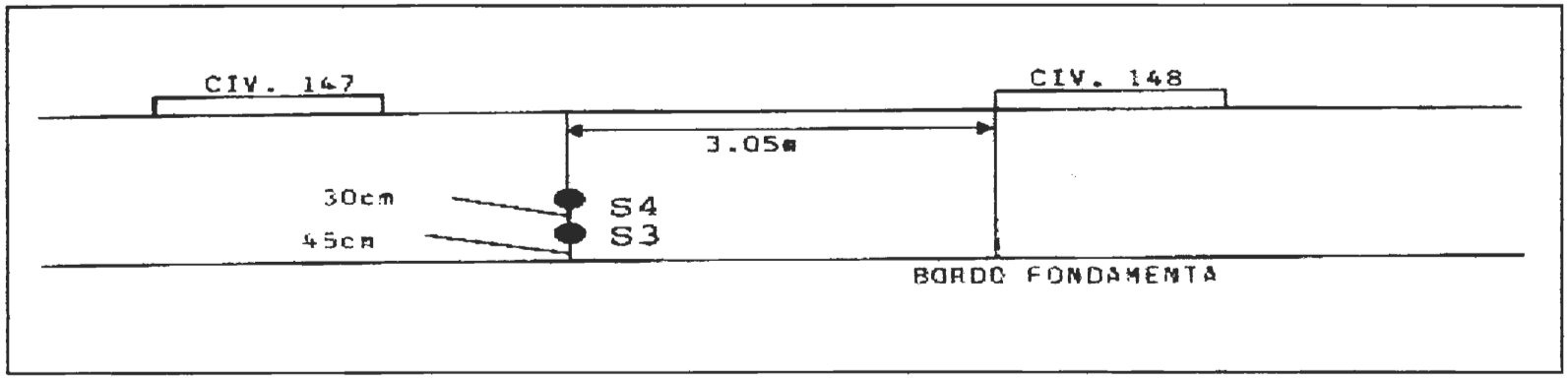
Numero Civico	*Riferita A*	*Tipo di Attrezzatura*	*Assistente*	*Operatore*
DD3687/A	piano banchina	A Rotazione	Mortilaro D.	Zorzetto M.

Profondità (m)	Spessore (m)	Tipo di Suolo
0,00	2,20	sabbia e ghiaia
2,20	3,30	limo argilloso
5,50	0,60	argilla
6,10	0,40	limo sabbioso
6,50	5,10	sabbia fine
11,60	1,90	argilla
13,50	1,50	sabbia fine

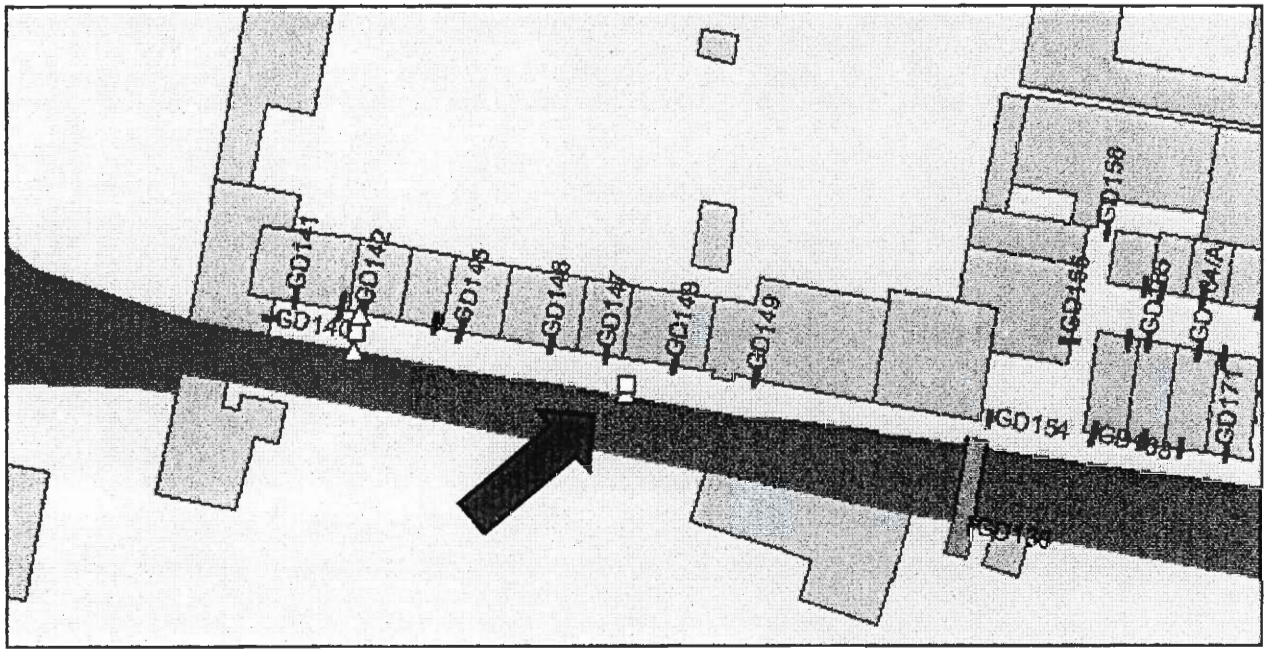
From Database To Mapping

- Plot locations of samples in MapInfo
- Extract sample information from the database
- Link sample information to sample locations in MapInfo

Paper Maps Vs. Computer Maps

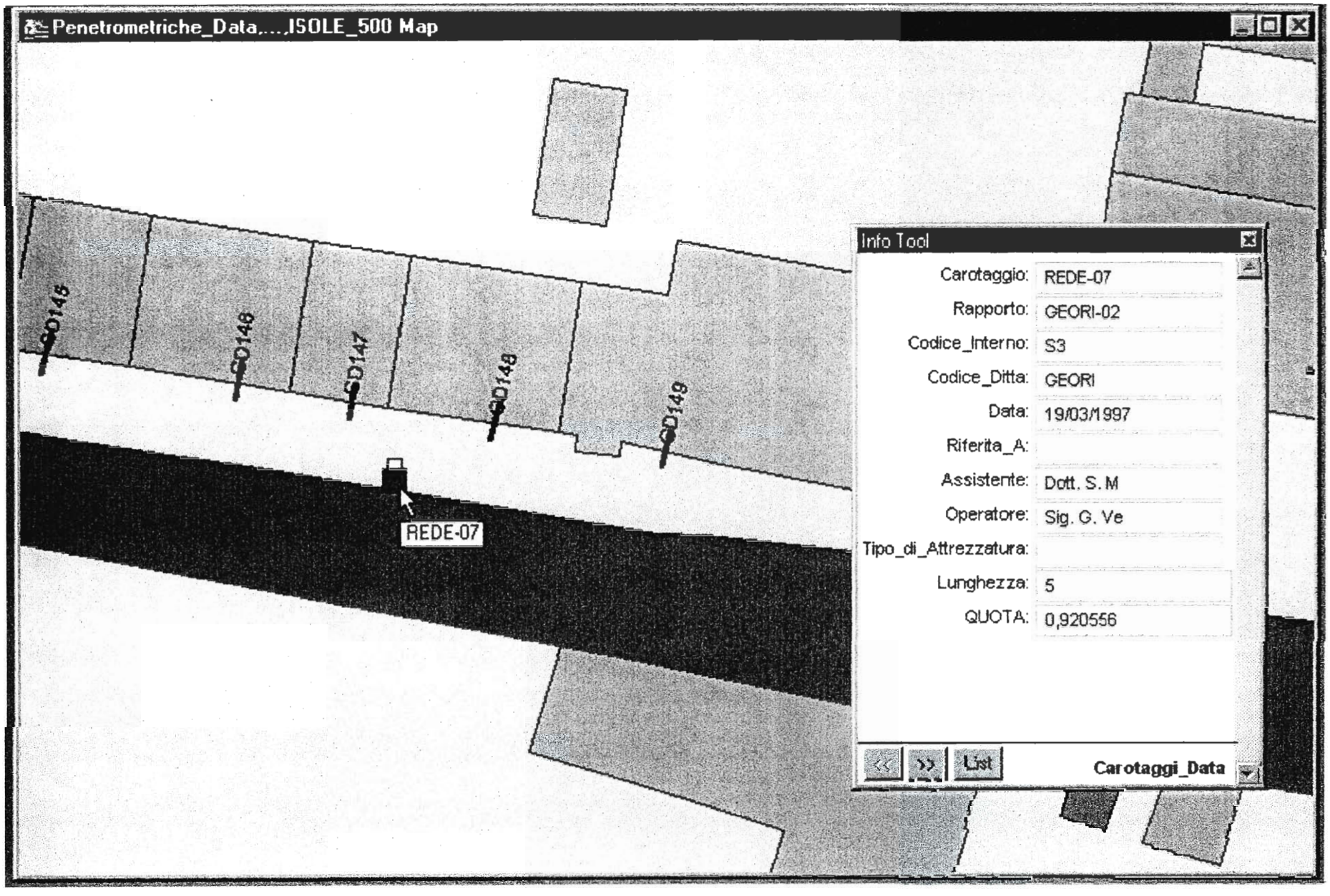


Example map from paper reports



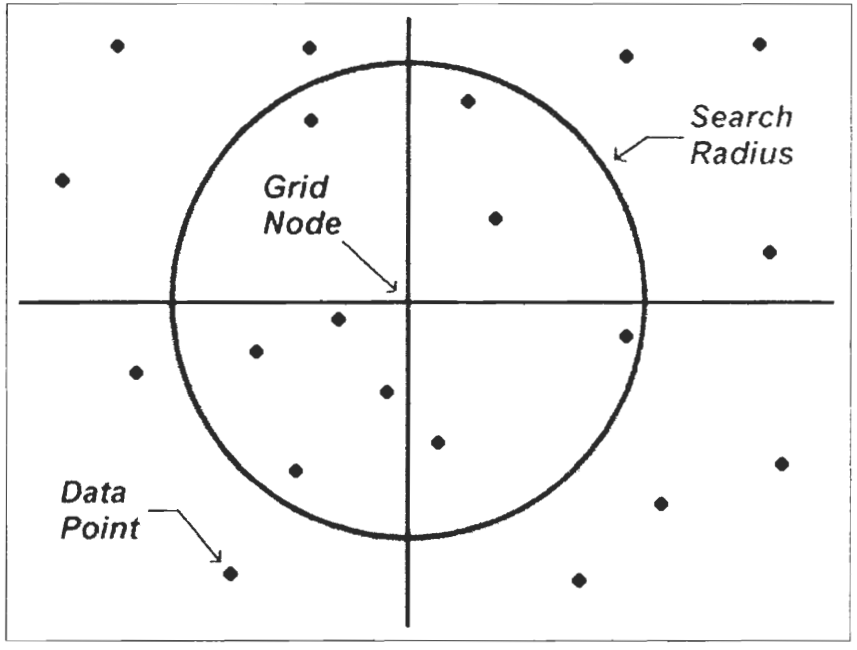
Improved map produced from database using Mapinfo

Extracting Test Information from Maps

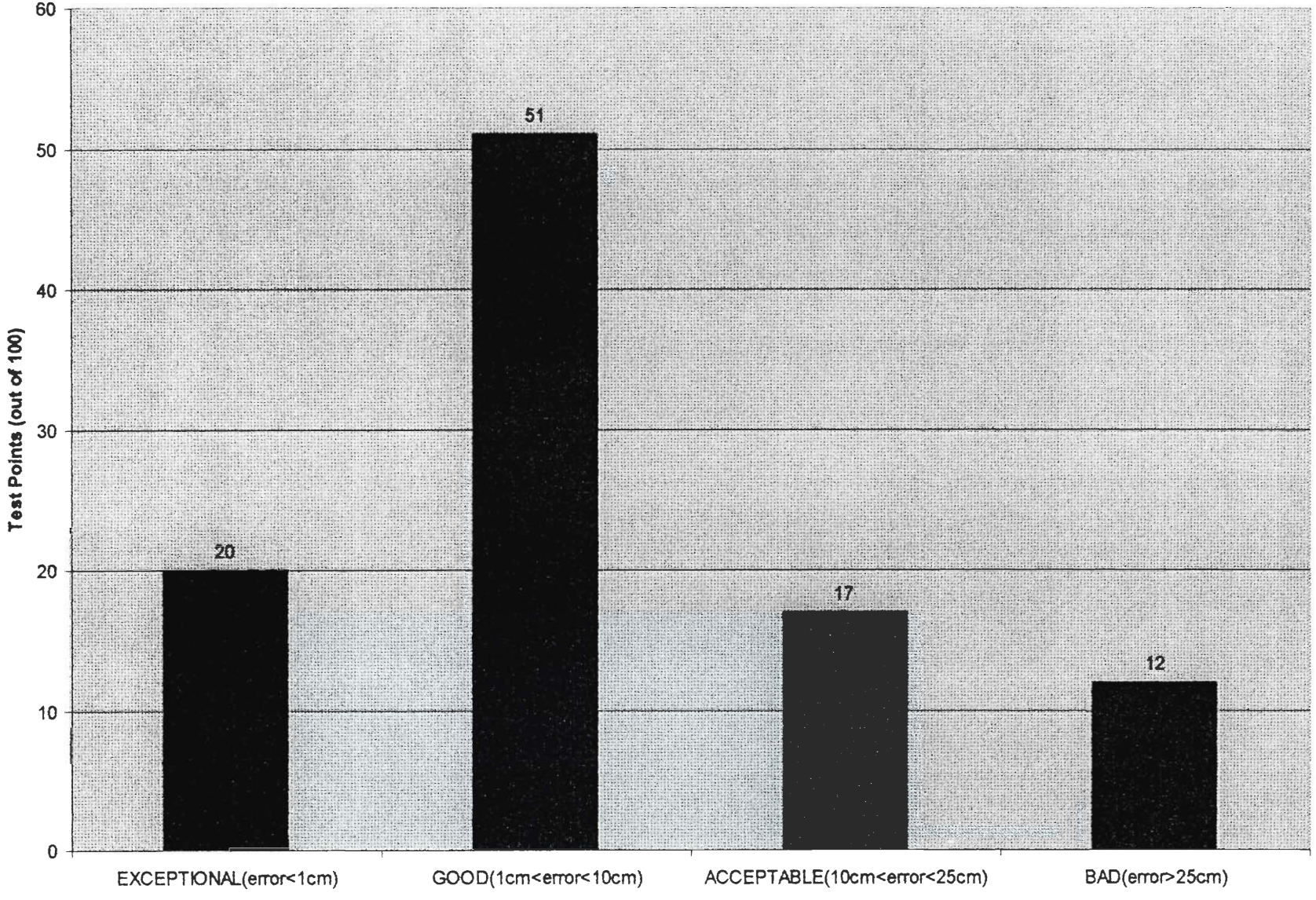


Locations of Soil Sample and Penetrometric Test Sites

Determining the Absolute Heights of the Samples



Testing Accuracy of Interpolation



3-Dimensional Map

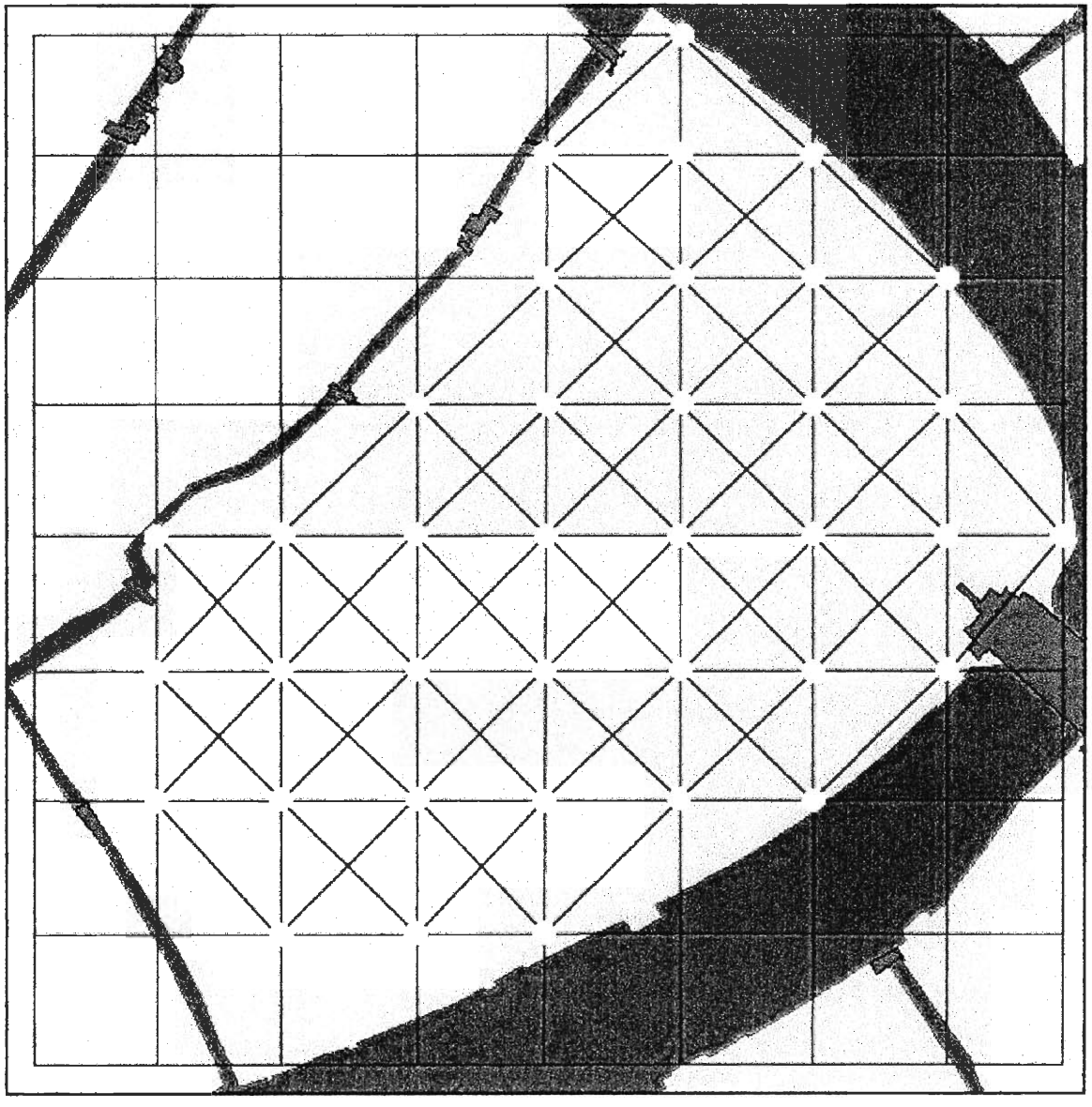
Purpose:

- To provide a 3-D view of soil layers

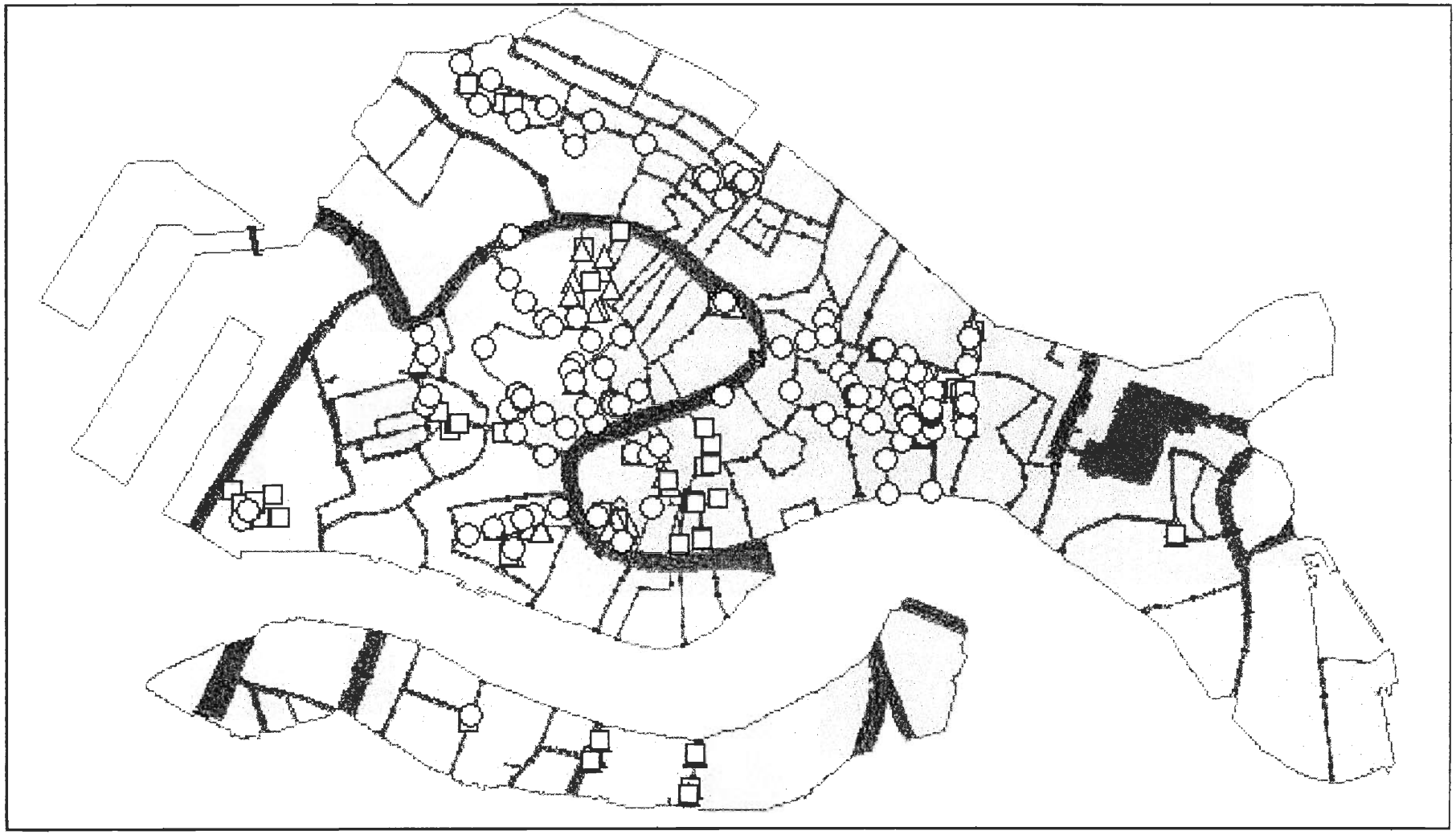
Procedure:

- To combine data from database and 2-D map
  - 2-D map shows soil sample locations
  - Database provides soil layer depths for each sample
  - Interpolation methods approximates characteristics of soil layers in between sample test sites

Ideal Sample Grid



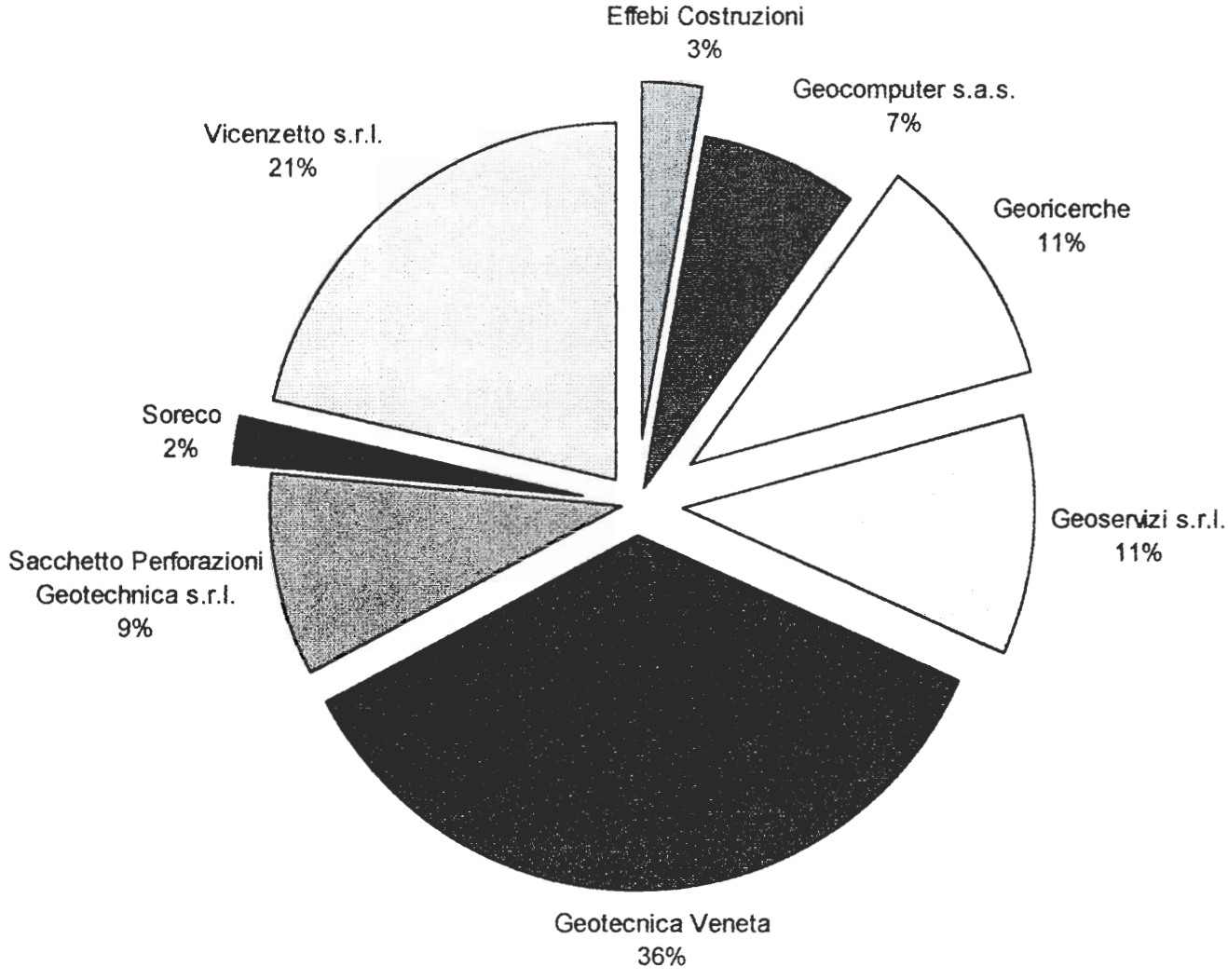
Irregular Distribution of Soil Test Sites



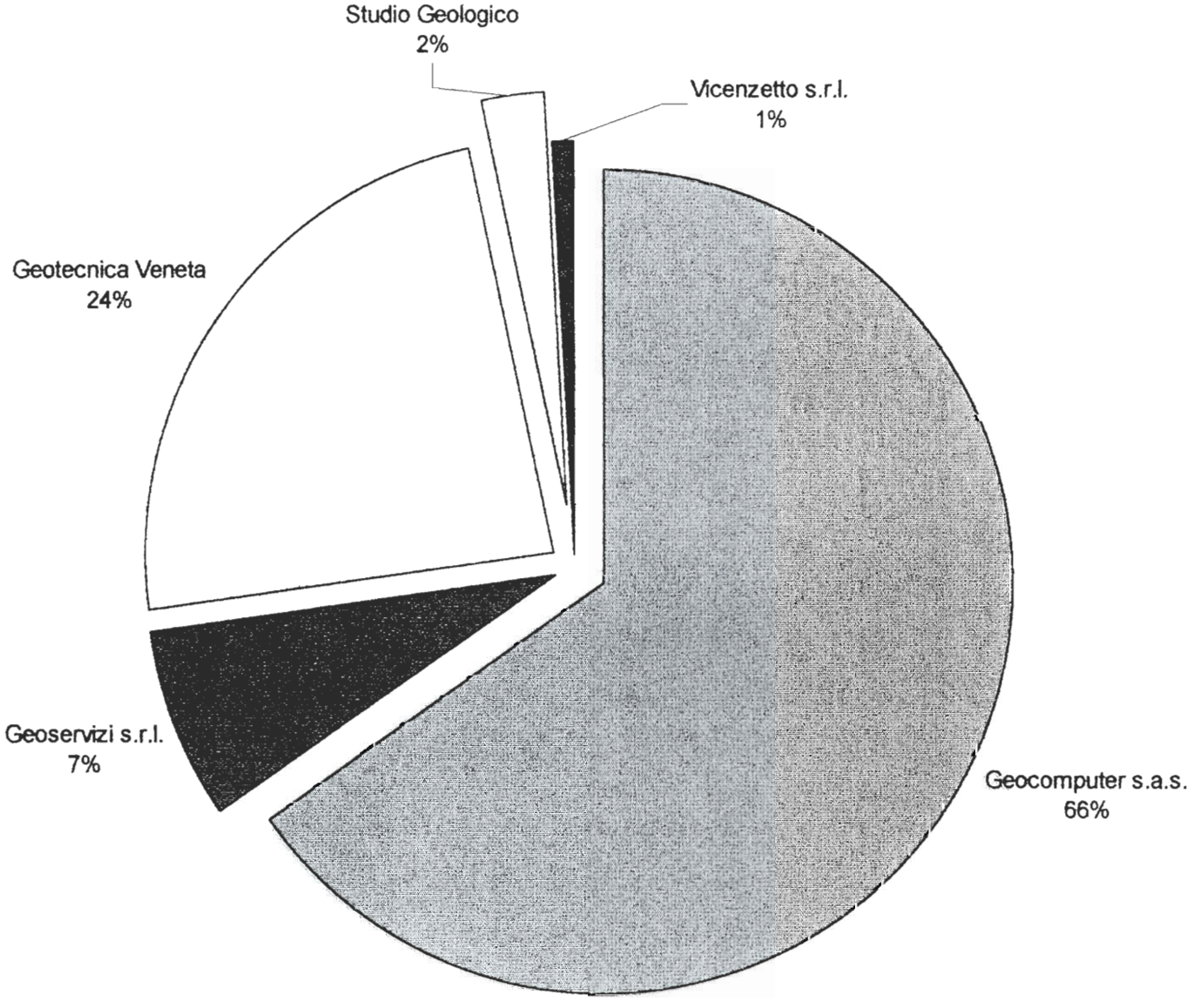
Database Results

- 21 soil reports
- 149 soil samples
- 121 penetrometric tests
- 15 organizations
- Samples taken on approximately 25% of Venice's islands

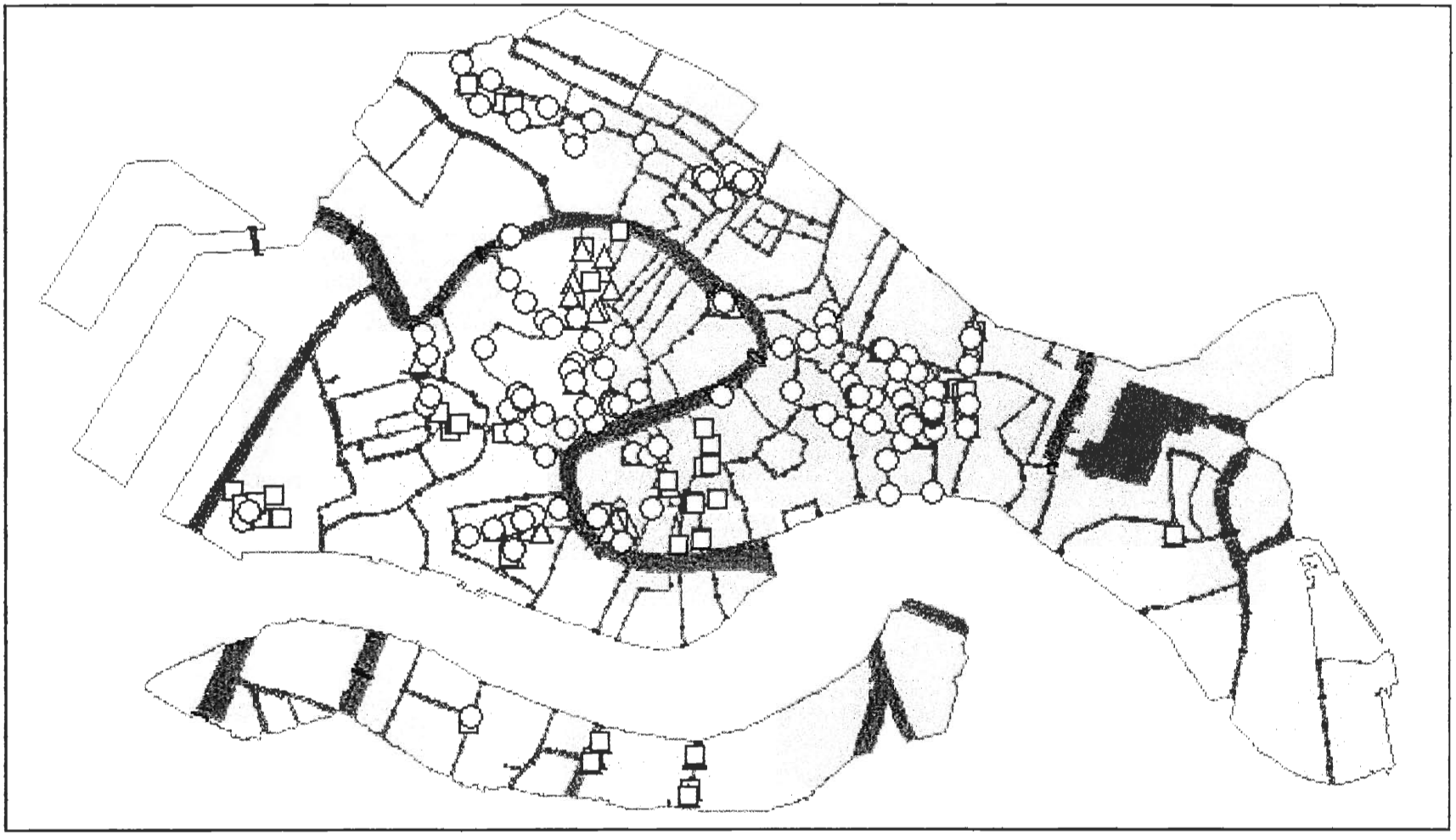
Samples from Each Company



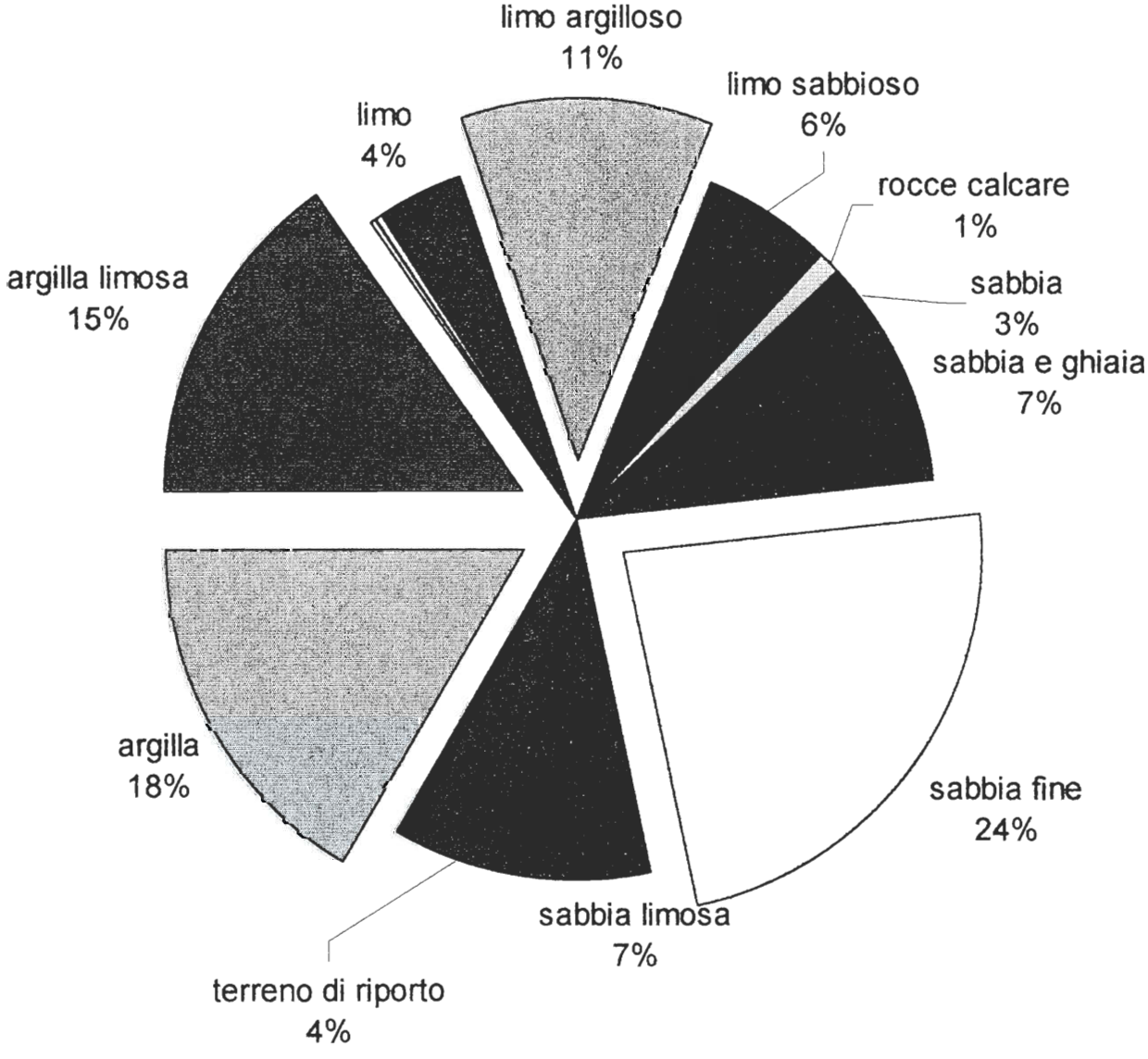
Penetrometric Tests by Company



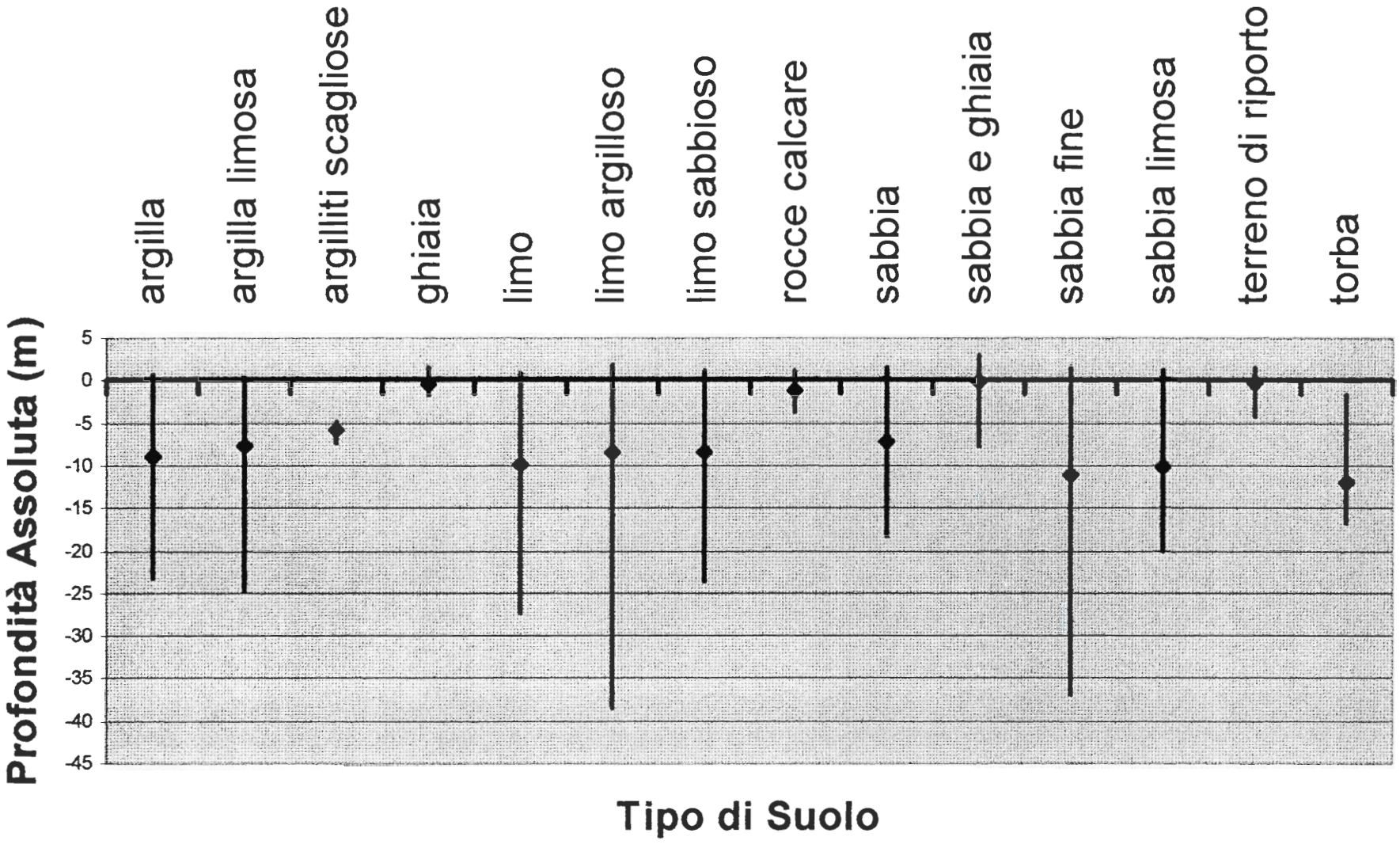
Soil Test Distribution



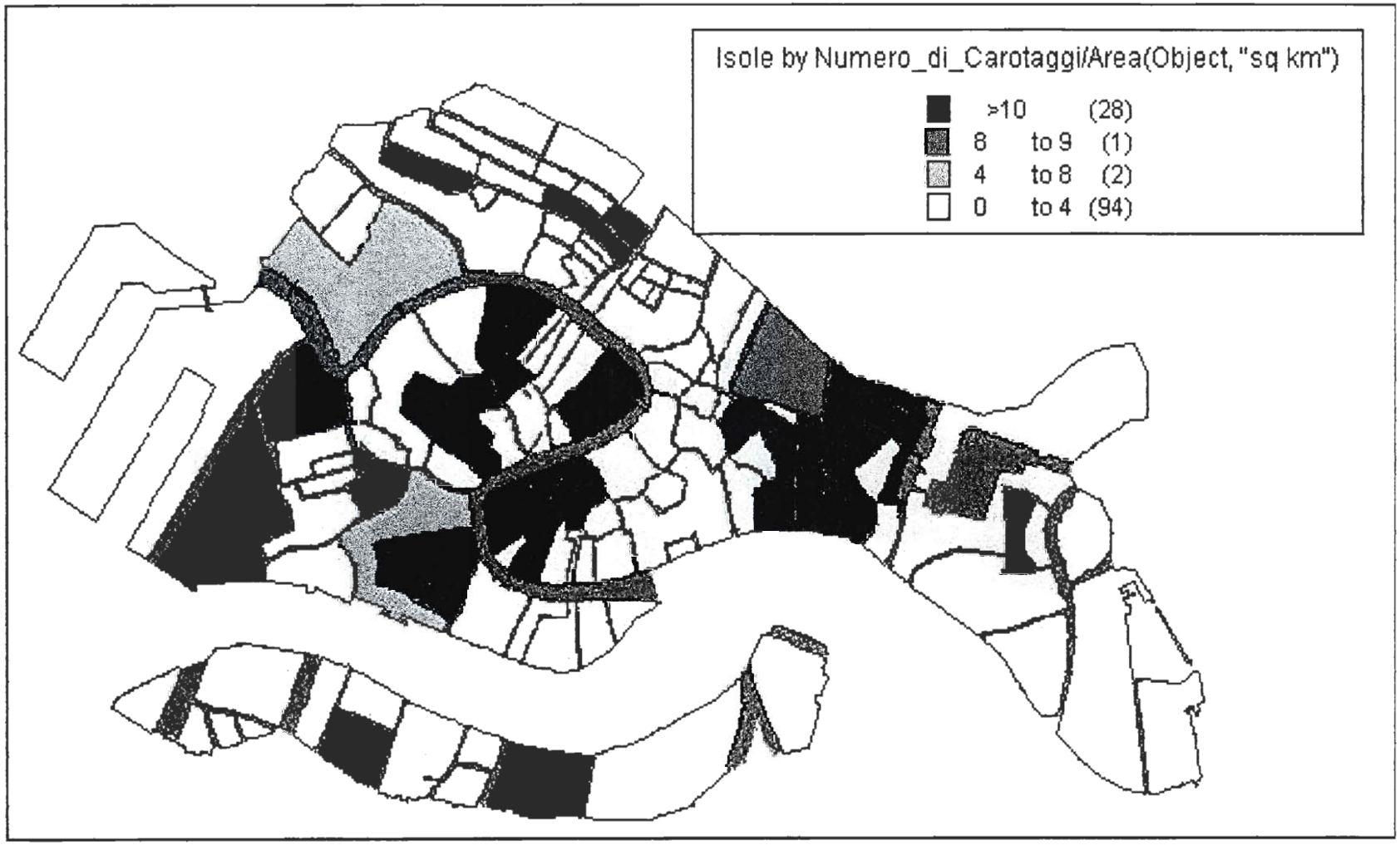
Soil Types in Venice



Average Soil Depths in Venice

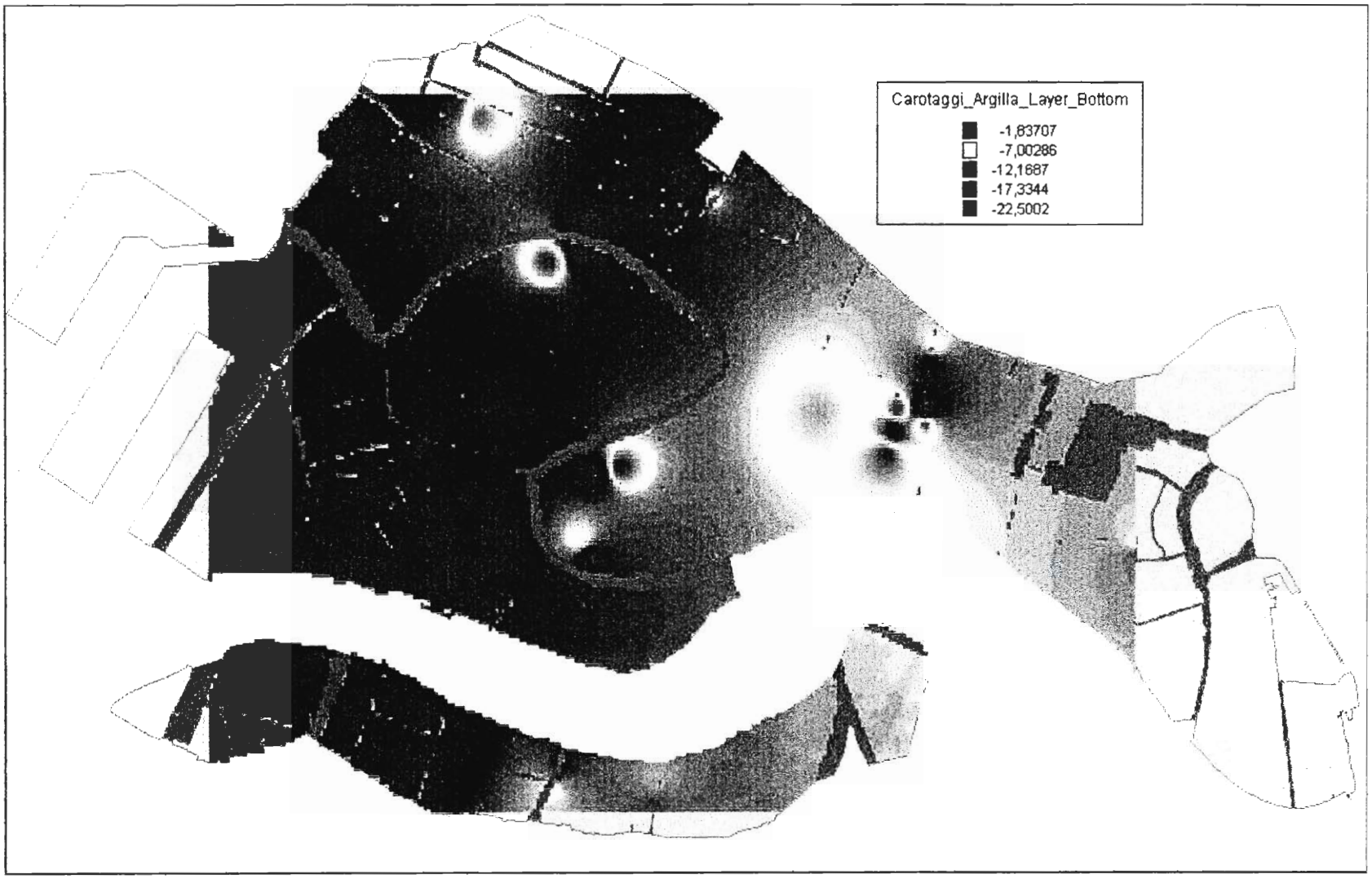


Test Distribution

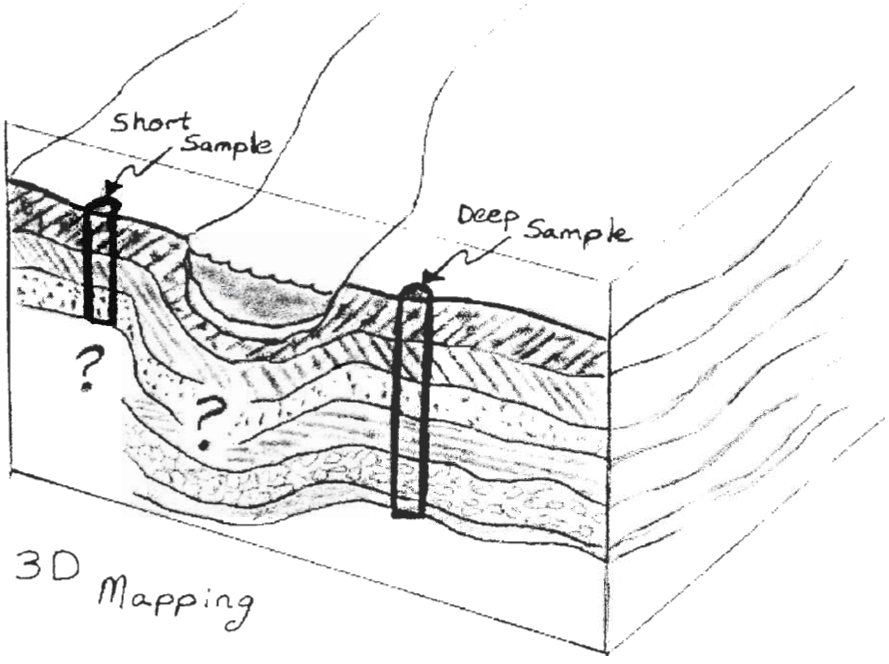


Distribution of Argilla

Depth by Location for Argilla

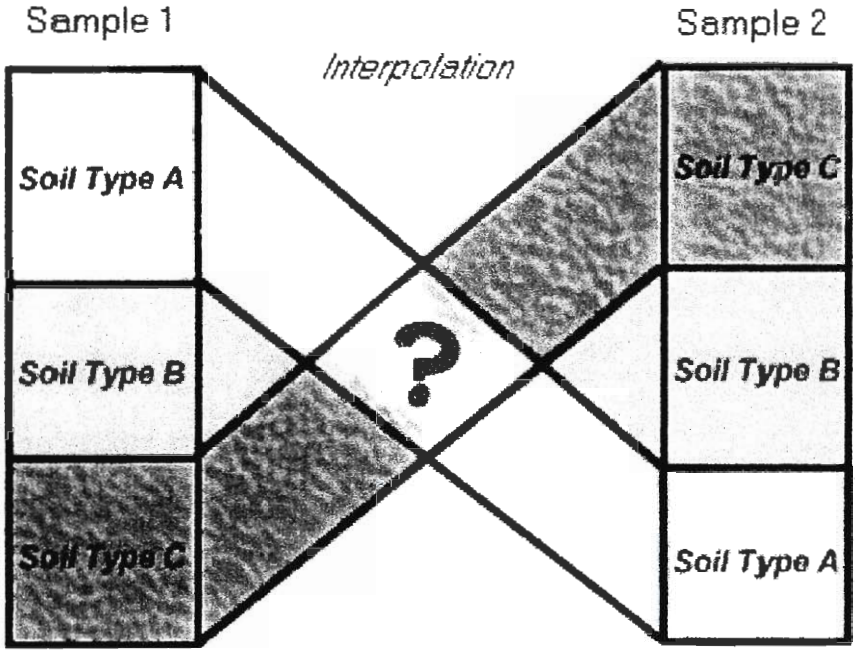


Expected 3-D Map Results



- Shows test locations
- Shows soil layers
- Problems
  - Test distribution
  - Different test depths
  - Discontinuities
  - Software

Software Limitations



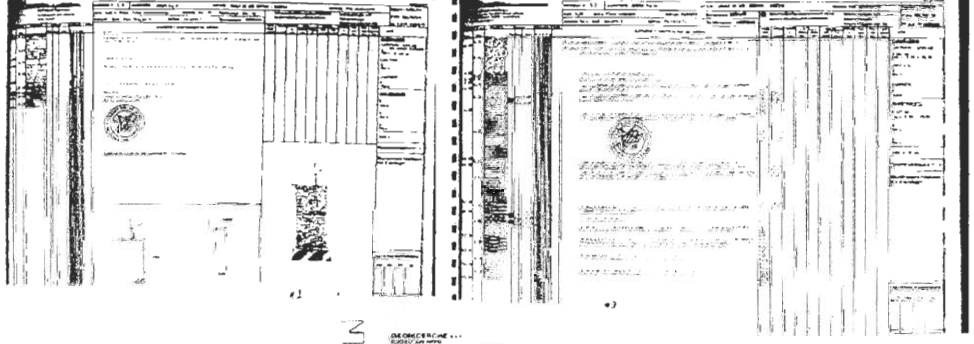
- Vertical Mapper cannot display multiple surfaces
- Dealing with discontinuities
- What to do when layers cross

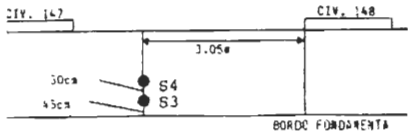
3D Mapping Recommendations

- All other soil reports entered into database
- Even distribution of future tests
- Future tests at same depth???????
- Alternative software specific to 3D mapping

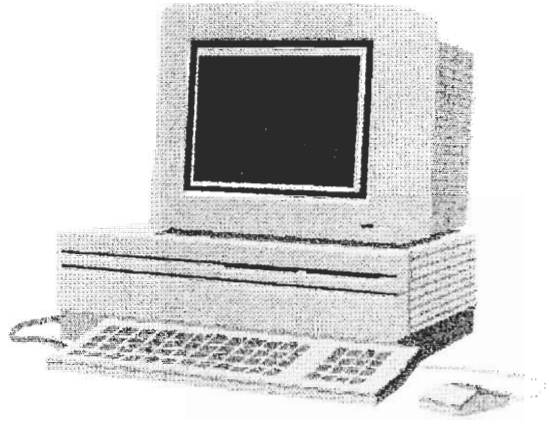
Conclusions

- Created database (what we did, etc)
- Created maps (etc)
- Explored 3d Mapping
- Increased Efficiency (under db, map)
  - Soil data is quickly and easily accessible
  - Maps allow for better future planning




CIV. 147
CIV. 148
3.05m
30cm
45cm
S4
S3
BORDO FONDAMENTA


INDAGINI GEOGNOSTICHE



Questions?