F L O R I D A
STATE BOARD OF CONSERVATION
S. E. Rice, Supervisor of Conservation
FLORIDA GEOLOGICAL SURVEY
Herman Gunter, Director

REPORT OF INVESTIGATIONS

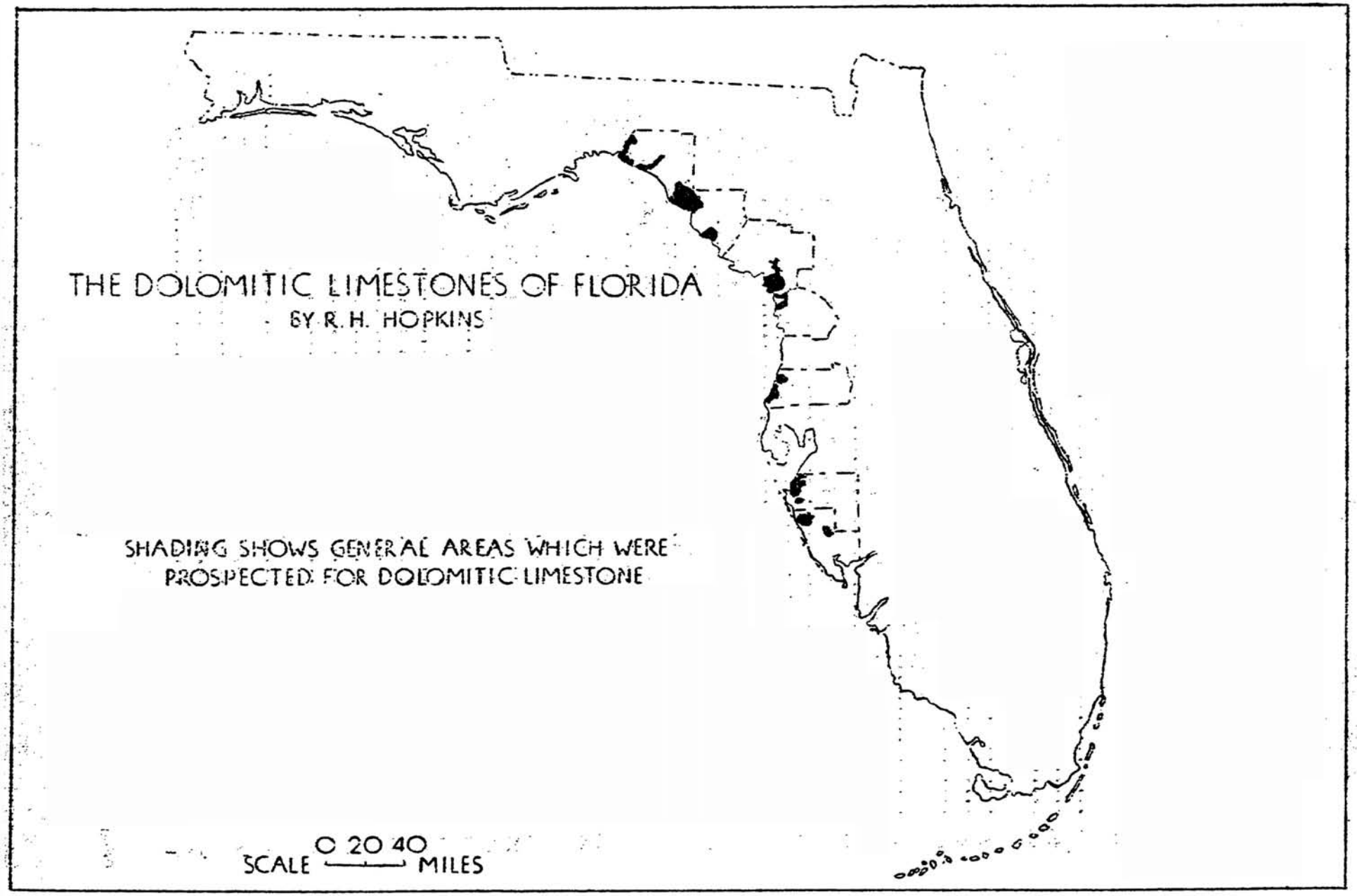
No. 3

THE DOLOMITIC LIMESTONES OF FLORIDA

By R. H. Hopkins

Prepared and Published by
Florida Geological Survey
Tallahassee

December, 1942


THE DOLOMITIC LIMESTONES OF FLORIDA
BY R. H. HOPKINS
SHADING SHOWS GENERAL AREAS WHICH WERE PROSPECTED FOR DOLOMITIC LIMESTONE
SCALE 0 20 40 MILES

CONTENTS

INTRODUCTION

Very little has been written about the dolomitic limestone resources of Florida. Dolomitic boulders and outcrops have doubtless been observed for many years, but have been included in the general term limestone. The first recognition of rock of this nature was probably in Levy County, where prospecting was done about ten years ago by R. M. King in the vicinity of Lebanon near the present pits of the Dixie Lime Products Company of Ocala. As a result of this work, a plant for the manufacture of agricultural limestone was built. Since that time the Golden Dolomite Company of Orlando, and the Gulf Dolomite Company of Haines City, have constructed plants at Red Level in Citrus County, and the Florida Dolomite Company of Sarasota, in Sarasota County. All of these plants are producing dolomitic limestone for agricultural purposes. Dolomitic limestone has been mined elsewhere on a small scale, especially in Manatee County. Most of this rock has been used for aggregate and rough building stone.

With the outbreak of the present war the demand for data on the dolomite resources of the nation greatly increased. This was because of the fact that processes had been developed and were being perfected for the extraction of magnesium from dolomite. This demand for data on dolomites prompted the investigation covered by this report. Although no dolomite deposits in the strict sense of the term have been found in the course of this study it is felt that important economic data, particularly for post war developments, have been brought to light.

It was not possible, nor intended, to make an intensive investigation of each deposit or to estimate available tonnages within narrow limits. Such

data should be obtained by those who wish to attempt economic development at a given place. The chief object of this report is to aid such persons in outlining general areas where dolomitic limestone deposits are favorable for intensive prospecting. Analyses have been made of samples from the test holes drilled, and these serve as an index to the quality of the limestone.

The test drilling for this work was done with a Bucyrus-Erie, Type 21-W, drilling rig. This machine was transported in the field by a 1½ ton truck. Since the main objective of the work was to determine the deposits of commercial value, most of the holes were comparatively shallow, rarely exceeding 50 feet in depth, which would probably be below the economic mining range. However, a few deeper holes were drilled for geological information. Many surface samples were collected and analyzed in the course of the work.

The field work for this investigation was begun on October 16, 1941, and continued until July 15, 1942. During that time, known dolomitic limestone locations were visited, together with others which were found as the survey progressed. Before going into the field, permission was obtained from the State Road Department to drill on State Highway right-of-ways. Permission was obtained from the Board of County Commissioners to drill on the county roads in each county where work was planned.

Acknowledgments

The writer wishes to express sincere appreciation to the many individuals who furnished information and aid during the progress of the work. Especial mention is made of the following persons who gave generously of their time and assistance: Barney O'Quinn and McCall Whidden, Perry; J. W. Robinson

and C. C. Ward, Gulf Hammock; R. M. King, Dunnellon; L. F. Fernald, Tarpon Springs; A. B. Edwards and W. K. Wolfe, Sarasota; and E. F. Staples, Samoset.

Terminology

Strictly speaking dolomite is a double carbonate of calcium and magnesium in which the magnesium carbonate constitutes 45.65% of the rock and calcium carbonate constitutes 54.35%. During the last few years the term "dolomite" has been greatly abused, and now frequently includes all relatively high magnesium limestones. This practice has been carried into a number of publications and if continued can lead only to general confusion and eventual wide misunderstanding just as has occurred with the term "marl." Some limit should, therefore, be placed on the use of the term dolomite. For the purposes of this report the following scheme of classification will be used:

High Calcium Limestone

95% $CaCO_3$

Limestone

80 to 95% $CaCO_3$

Magnesium limestone or dolomitic limestone

Limestone with at least 20% $MgCO_3$

A. Low grade magnesium limestone - 20% to 30% $MgCO_3$

B. Medium grade magnesium limestone - 30 to 36% $MgCO_3$

C. High grade magnesium limestone - 36 to 40% $MgCO_3$

Dolomite

At least 40% $MgCO_3$

Locally in most of the magnesium limestone areas boulders have been found that show a $MgCO_3$ content exceeding 40%. This condition is not general,

however, and is apparently due to concentration due to leaching of the calcium by surface waters. No deposits, in which the $MgCO_3$ content exceeded 40% were found that were of sufficient size to offer development.

Origin and Mode of Occurrence of Florida Dolomitic Limestones

In peninsular Florida, dolomitic limestones are found in a narrow strip along the west coast from Jefferson County to southern Sarasota County. In general these deposits are confined to the Oligocene and Miocene rocks which are exposed at or near the surface throughout the area. Along the Steinhatchee River the Oligocene sediments are relatively thin and the Ocala limestone of Eocene age outcrops in many places. In this area it is likely that the basal portion of the dolomite is probably Ocala in age. The rock is so badly altered by solution and recrystallization, however, that is is impossible to identify fossils with certainty, and the exact age of the rocks must remain in doubt until better fossil specimens are found. In the vicinity of Red Level in Citrus County similar conditions persist. A few very poor specimens of Lepidocyclina, a characteristic fossil, have been found in dolomitic rocks at the Gulf Dolomite Company's mine. The species at Red Level could not be identified, but inasmuch as Lepidocyclina is not known from the Oligocene there, and is common in the Ocala, it can be inferred that at least a portion of the dolomitic section is Eocene.

Dolomitization may be primary or secondary. Primary dolomitization means that the mineral dolomite was formed and deposited when the sediments were laid down. Secondary dolomitization is a replacement process in which a portion of the calcium of the original rock is replaced by magnesium in

solution, or it may be due to concentration of magnesium by leaching out a part of the original calcium in a rock that contains a relatively small amount of magnesium. The calcium is more soluble than the magnesium and goes into solution quite readily particularly when exposed to waters with a fairly high H_2CO_3 and organic acid content. The magnesium being much less soluble would remain, and in time would constitute a large percentage of the remaining rock. The fact that most of the Florida deposits show strong solution activity; that in many cases almost complete crystallization of the rock has taken place; and that the highest magnesium content is in exposed crystalline boulders, very local in extent, would indicate that concentration by the leaching of the calcium by surface waters has played an important part in the formation of the Florida dolomitic limestone.

Sea water contains magnesium in quantities equal to about 3.77% of the total salt, or 0.14% of the total content. It is generally believed that sea water acting on exposed limestone will tend to replace a portion of the calcium with magnesium. This replacement process is probably most active in warm and shallow seas. The seas that have covered the Oligocene and Miocene portions of Florida since their original deposition have all probably been relatively warm, and they have been comparatively very shallow. These were ideal conditions for the dolomitization of these rocks. The question may be raised as to why there are not higher grades of dolomitic limestones and even true dolomite found in Florida. This is probably largely due to the fact that the parent rocks were generally high calcium or slightly arenaceous limestone containing very little magnesium.

There is no evidence to indicate primary dolomitization of rocks now

exposed in Florida. In every case the limestones that do not show evidence of leaching or recrystallization are all high in calcium carbonate and show only a trace, if any, magensium.

The present investigation indicates that the dolomitic limestones of commercial importance in peninsular Florida occur as irregular patches bordering the west coast from Jefferson County southward into Sarasota County just south of the town of Sarasota. Between Crystal River in Citrus County and the vicinity of Palmetto in Manatee County such magnesium limestones as do occur are of very low grade, highly siliceous, and are confined to very narrow strips adjacent to the coast line. This same condition is also found in Dixie County.

The dolomitic limestones found from Citrus County northward are Eocene and Oligocene rocks and present a very different character from those of Manatee and Sarasota counties which occur in Hawthorn Miocene deposits. In general they are light buff to an almost iron brown in color. They all present a crystalline structure being composed of masses of small rhomtohedral crystals. This is the less common crystalline form of the mineral dolomite. The exposed rocks are usually quite hard, but because of the crystalline structure may be broken fairly easily and can be pulverized quite easily. The dolomitic limestones in Manatee and Sarasota counties are usually light shades, even white in color, and show a high percentage of silica. Below the hard rock occurring near the surface, locally known as "travertine", the deposit becomes much softer and is gray in color. This material is high in silica and contains some alumina. It is quite clayey in appearance and is designated by some pit operators as "soft dolomite." It is less dolomitic than the overlying

hard rock, the magnesium carbonate content being from five to ten per cent less. This soft material might best be termed "dolomitic marl." The high percentage of silica and alumina in the magnesium limestones of Manatee and Sarasota counties may be accounted for by the fact that the original rock was a sandy limestone containing some clay.

Uses

The uses of dolomite and dolomitic limestone, and the commercial preparations derived from them are too numerous, and varied to receive any extended treatment here. This discussion will, therefore, be confined to those uses which offer possibilities for the Florida rock or which have been suggested as potential. The uses have been divided into two groups, the first of those in which the chemical character of the rock is most important and the second in which the physical properties are most important.

Uses for Which Chemical Properties are Important

Agricultural limestone:

To date the only important development of the dolomitic limestones of the State has been for agricultural lime. Limestone of various forms added to the soil as a soil conditioner particularly those soils having a low pH value. Formerly high calcium limestone was most commonly used for this purpose. It has been found, however, that the effect of the high calcium limestone is shorter lived and there is greater chance to damage crops by its use. Magnesium limestone on the other hand is used up much more slowly and the quantity applied does not have to be controlled as carefully. These reasons have led to a widespread use of magnesium limestones and dolomites in preference to

high calcium limestone. The better grades of Florida dolomitic limestone are ideally adapted for agricultural use and a continued development of the deposits for that purpose may be expected.

Many fertilizers have inert products added as a filler to give bulk to the final product. In the case of certain types that have a tendency toward an acid reaction either limestone or dolomite is used for the filler. These serve the double purpose of neutralizing the acids to give a physiologically basic product and also add bulk. Dolomitic limestones such as those found in Florida are excellent for this purpose.

Carbon Dioxide:

Within recent years carbon dioxide gas has become widely used in its solid form as a refrigerant, commonly known as dry ice. The advantages of this type of refrigeration are numerous and it is now commonly used in refrigerator trucks and is becoming more common on railway refrigerator cars. To Florida which is a large shipper of fruits and vegetables proper refrigeration is very essential. This has led to a general interest in the possibilities of the development of dry ice plants in the State to supply railway and truck cars.

Carbon dioxide may be made from both high calcium limestone and from dolomite and dolomitic limestone. The dolomites and dolomitic limestones are slower reacting and yield less CO_2. For this reason they are less desirable than the high calcium rocks. On the other hand, in areas such as Manatee and Sarasota counties from which large quantities of fruits and vegetables are shipped, and in which high calcium limestones are not obtainable the magnesium limestones offer distinct possibilities.

Glass

Dolomite is used as part of the mixture employed for making glass. Iron oxides are very undesirable, however, and it is difficult to find a dolomite in which the iron oxide content does not exceed the maximum limit allowed. A uniform grade material is also necessary, in order that a product of constant chemical composition may be produced. This uniformity is apparently not found in the dolomitic limestones of Florida.

Paper

Dolomite is used in the sulphite process of pulp manufacture by the Tower system. This method, used principally with wood of coniferous trees, involves digestion of the pulp in an acid liquor under high temperature. Dolomite used for this purpose should have a uniform ratio between calcium and magnesium and low in total alumina, iron oxide and silica content. The dolomitic limestones of Florida in general are not suited for use in paper manufacture, because of the high percentage of silica.

Rock Wool

Impure limestones or dolomites are used in the manufacture of rock wool, sometimes called "mineral wool." Limestones or dolomites used in rock wool manufacture should contain between 20 and 30 per cent carbon dioxide, equivalent to 45 and 65 per cent calcium and magnesium carbonate. The remainder of the rock should be mostly silica, or silica and alumina. Iron sulphide is undesirable. It is thus seen that a very impure siliceous dolomite, useless for many other purposes, may be utilized for the manufacture of rock wool. If one or more essential component parts are lacking or are of insufficient quantity in the dolomite, clay, sandstone or other rocks

high in silica or alumina may be added in order that the resulting mixture may meet the chemical specifications given above.

For the manufacture of rock wool, the raw dolomite should be broken into rather small pieces, perhaps from 2 to 5 inches. It is then melted in an unlined water-jacketed steel kiln, coke being the fuel ordinarily used. The temperature required varies somewhat according to the nature of the raw material, but the probable average is about 1500° of 1600° C. After reaching the desired temperature, the molten material is drawn off in a small stream, and subjected to a blast of steam or air under high pressure. This steam or air jet breaks the molten material into tiny globules and propels them through the air at high speed. In their flight, they are drawn into minute fibers, the phenomenon being analogous to a comet and its tail. The "shot" are then removed by screening, and the resultant fluffy mass, resembling sheeps wool, is propelled into a collecting chamber.

Rock wool is a heat insulation product. The market for this material has greatly increased throughout the United States in recent years. Its use in Florida to date has not been extensive, and no rock wool is being produced at the present time. The cost to the consumer in this section is, therefore, greatly increased by high freight rates, as rock wool is a light weight product and only about 12 tons can be packed in a freight car. As the general public learns of the benefits of insulation, the need for a rock wool plant in Florida will become apparent.

These benefits include considerably reduced fuel consumption during the winter months together with greater comfort even with a fine heating plant, exposed surfaces of walls, ceilings or floors in the average home are likely

to become too cold unless they are heavily insulated, thus causing discomfort to the occupants of the building. The same insulation helps to keep these surfaces cool in summer, and may even make an upstairs room comfortable, which without insulation would be insufferably hot.

With sufficient advertisement a rock wool plant in Florida should have good promise of success. This plant should be located in a region which has adequate distribution facilities. Careful attention should be given to the quality of the manufactured product. It should be equal to the standard brands on the market today. Although the cost of a plant for the manufacture of rock wool would probably not exceed $75,000, sufficient capital would be needed to tide over the period required to build up a market, as heat insulation in homes is still in its infancy, and the potential customer must be shown the benefits of such insulation.

Magnesium

The investigation of dolomitic limestone deposits in Florida was stimulated by the need of the National Defense Program for a greatly increased production of the metal magnesium. This metal is one-third lighter than aluminum and is being combined with it to form strong light alloys so important in the manufacture of airplanes and automobiles. Another important use of magnesium at the present time is in pyrotechnics and incendiary bombs. Magnesium was formerly extracted from underground brines and sea water. Recently it has been obtained from dolomite. This new source of magnesium has resulted in much prospecting and field investigation for suitable deposits throughout the United States. The future of magnesium as a major metal now seems assured. Its light weight and strength when combined with aluminum

will result in its extensive use not only for the duration of the war but thereafter as well.

Dolomite or dolomitic limestone used for the extraction of magnesium should have a magnesium carbonate content of at least 40 per cent. It should be low in impurities, especially silica which is detrimental in refining. A potential deposit to be used for the extraction of magnesium should be in a region where cheap power is available. These requirements make the Florida dolomitic limestone deposits unsuitable, as most of these deposits are too high in silica for the extraction of magnesium and there is no cheap power at hand for reduction of the metal.

Uses for Which Physical Properties are Important

Building Stone

Physical rather than chemical properties govern the quality of a building stone. It should be homogeneous in structure, high density and low porosity, as well as pleasing in color. Deposits intended for use as a source of cut stone should be composed of relatively thick strata. They should be rather free of joints and seams, also chert nodules and other hard masses. It is difficult to find rock in Florida which meets these requirements. A large well-equipped plant formerly operating in Manatee County has been idle for many years.

Crushed Stone

The production of crushed stone in recent years has been very large, due to the great amount of highway construction and other building activities. Limestone is the commonly used material for concrete aggregate, although other

kinds of crushed stone such as slag and gravel are used extensively. Crushed stone is also employed for road stone and railroad ballast. The physical properties of the stone are of prime importance for these uses. On account of its low price, the choice between limestone and dolomite would be governed by the availability of the material and its proximity to markets.

Aggregate should consist of hard, clean, durable, strong, uncoated fragments, free from injurious amounts of soft, friable, thin, elongated or laminated pieces free from dirt. Road stone should be resistant to abrasion and break into angular chunky fragments. Many Florida dolomitic limestones are unsuited for this use as they do not break clean.

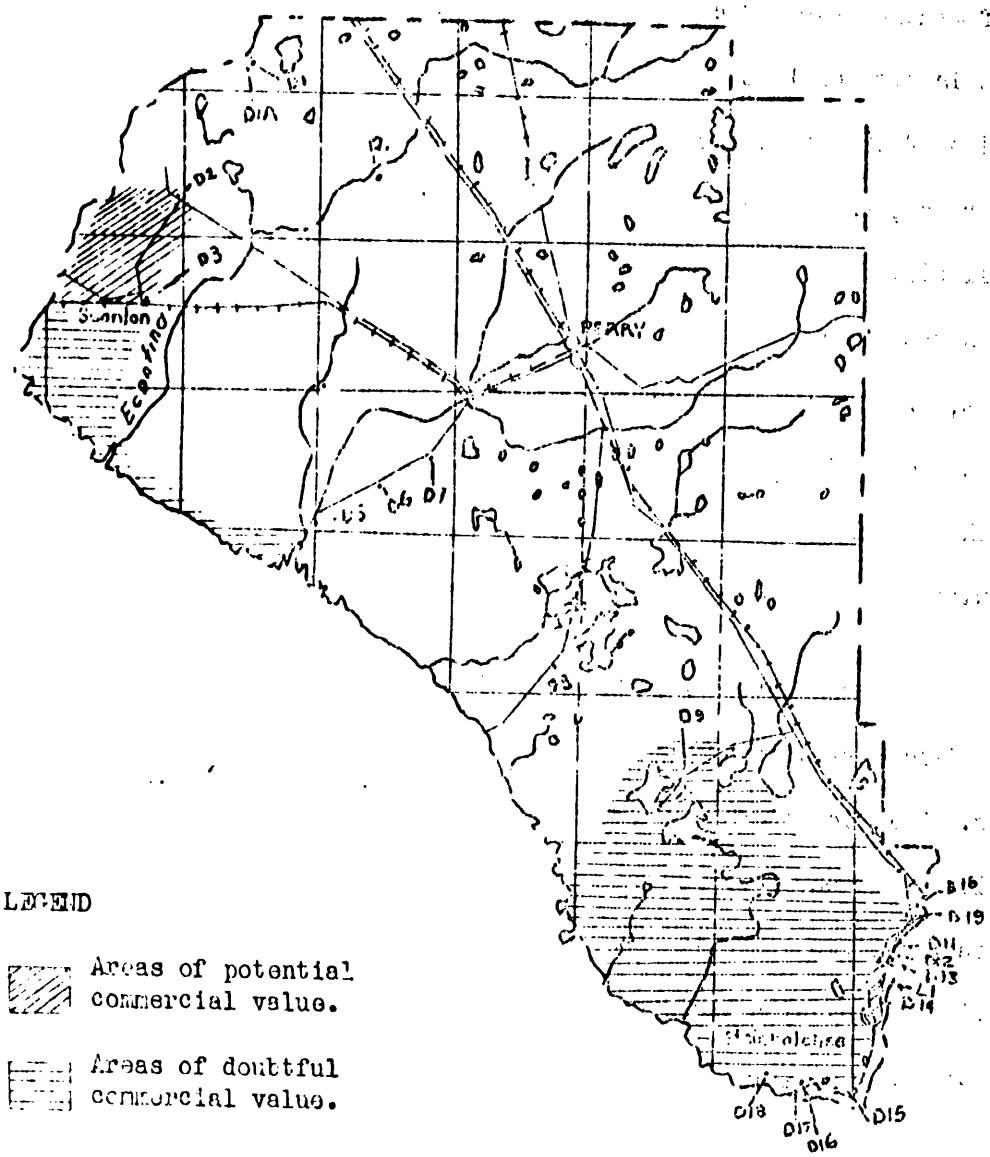
Prospecting for Dolomitic Limestones in Florida

Field work done by the Florida Geological Survey is described by counties. Hole locations and a brief description of the material found in each hole are given, followed by conclusions drawn. Following these descriptions are tabulations showing the log of each hole together with analyses of the samples. Elevation based on mean sea level (United States Geological Survey) are also given.

Taylor County

Residual boulders of dolomitic limestone cover much of Taylor County. These boulders are widely distributed, although not continuously, between the Aucilla River on the northwest to the Steinhatchee River on the southeast.

Work was begun at Covington in the northwest part of the county, though this location was thought to be north of the dolomite area. Hole DT-1 in the NW¼ Sec. 33, T2S, R5E, was drilled on the side of the road opposite the



LEGEND

Areas of potential commercial value.

Areas of doubtful commercial value.

Dolomitic stations are represented by the letter "D" followed by a numeral.

Limestone stations are represented by the letter "L" followed by a numeral.

10 0 10 Miles

Map of Taylor County showing dolomitic areas and locations of test wells.

Rollins house, near the old railroad station site. This hole showed 15 feet of sand, at which point a sandy gray limestone was encountered. This formation was penetrated with little or no change to a depth of 33 feet, where drilling was stopped.

Hole DT-1A was drilled about 700 feet to the south near the Vann residence. This hole went through 10 feet of sand, then into siliceous limestone, which continued to a depth of 23 feet. The ground was caving, and the formation unfavorable, so the hole was stopped at that point.

Hole DT-2 in NE$\frac{1}{4}$ Sec. 25, T3S, R4E, was drilled on State Highway 10A, at the intersection of a road running southwesterly to Scanlon. This hole went through one foot of sand, into a high grade magnesium limestone with little variation, except for a two foot layer of siliceous material between three and five feet, to the bottom at 38 feet. The average magnesium carbonate content for the 33 feet below the siliceous seam was 37$\frac{1}{2}$ per cent. This hole is evidently near the northern boundary of the deposit.

Hole DT-3 was drilled at Scanlon in the NW$\frac{1}{4}$ Sec. 23, T4S, R4E, between the Aucilla and Econfina Rivers. From surface indications Scanlon was thought to be near the eastern limit of the dolomitic deposit, and results of the drilling confirmed this opinion. Below 5 feet of sand, 5 feet of high grade magnesium limestone was found, in which the magnesium carbonate ran 38 per cent. Below this the quality decreased gradually and the hole was stopped at 25 feet in an extremely siliceous, caving formation.

Hole DT-4 in SW$\frac{1}{4}$ Sec. 8, T4S, R4E, was drilled near Nutall Rise on the Aucilla River at Padgett's Fish Camp, and penetrated five feet of sand and 15 feet of high grade magnesium limestone. The magnesium carbonate content

averaged 38 per cent.

The results from these three holes, together with surface showings, indicate a block of high grade magnesium limestone, lying between the Aucilla and Econfina Rivers and extending from State Highway 10A on the north to the Live Oak, Perry and Gulf Railway on the south. This area is approximately five miles long and 3½ miles wide. This area probably continues south of the railroad to the Gulf, but this part of the deposit lies in low, wet marshy land which is discouraging to commercial development. For this reason, no prospecting was undertaken and this part of the deposit is not included in any estimate.

The area described above is favorable for mining operations. The overburden is shallow and water would not greatly interfere with mining operations. The Live Oak, Perry and Gulf Railway is at present available for transportation.

Dolomitic boulders are exposed along the sand road from Hampton Springs to the fish camp near the mouth of the Fenholloway River.

A series of three holes was drilled along this road. Hole DT-5 in Sec. 36, T5S, R5E, was drilled at the fish camp about 1½ miles from the mouth of the river. After going through 5½ feet of sand and clay, a low grade magnesium limestone was entered. This averaged about 21 per cent magnesium carbonate to a depth of 25 feet. The hole was then continued to a depth of 150 feet for geological information. Between 25 and 95 feet, a dolomitic zone averaging about 30 per cent magnesium carbonate was penetrated. Below 95 feet, the formation was a soft gray limestone, which continued to the bottom of the hole at 150 feet. Because the magnesium carbonate content was low grade near the surface this hole was not considered to lie within a potential area.

Hole DT-6 was drilled in Sec. 21, T5S, R3E, about 4 miles northeast of hole DT-5. After going through 10 feet of sand, a medium grade magnesium limestone was entered. This continued to the bottom of the hole which was stopped at 30 feet. The average magnesium carbonate content for 20 feet was about 30 per cent.

Hole DT-7 was located in Sec. 14, T5S, R6E, about 6 miles northeast of the fish camp on top of a sand ridge. Below 30 feet of sand, 45 feet of a very low grade magnesium limestone was penetrated, with an average magnesium carbonate content of 16 per cent. A siliceous soft limestone was entered at 75 feet and continued to the bottom of the hole at 120 feet.

Southeast of the Fenholloway Fish Camp Road there are no evidences of dolomite on the surface. For this reason and also due to lack of accessible roads, few holes were drilled. Hole DT-8 was put down on State Highway 35 at a point about 4 miles northeast of Adams Beach in Sec. 26, T6S, R7E. This hole showed heavy sand and was abandoned at a depth of 13 feet, as unfavorable.

Hole DT-9 was drilled in Sec. 23, T7S, R8E, on the sand road from Salem to Fish Creek, about 5 miles from Hole DT-8. After going through 10 feet of sand and weathered limestone, a medium grade magnesium limestone was entered. This continued to the bottom of the hole at 40 feet, and the average sample was 33 per cent magnesium carbonate.

A series of test holes was put down near the Steinhatchee River between U. S. Highway 19 and the mouth of the river below the town of Steinhatchee, formerly called Stephensville. The eastern edge of the dolomitic area is apparently near the intersection of the river and U. S. Highway 19, and at this place gray Ocala limestone underlies dolomitic boulders along the right bank of the

river above the highway bridge.

Hole DT-10 was drilled in Sec. 21, T8S, R10E, above the bridge and about 100 feet north of the river bank. This hole showed low grade dolomitic rock to a depth of 20 feet. Between 20 and 45 feet, a zone of fairly high calcium limestone was found, containing about 4.5 per cent magnesium carbonate. A high grade magnesium limestone was penetrated at 45 feet and continued to the bottom of the hole at 62 feet. The average magnesium carbonate content was 36 per cent in this bed.

About ½ mile west of Tennille's store at the intersection of U. S. 19 and State Highway 69, a large number of dolomite boulders are exposed on the surface. Hole DT-19 was drilled in SW¼ Sec. 16, T8S, R10E, among these boulders, and a very low grade magnesium limestone, very high in silica, was entered at 5 feet. There was very little change in formation to the bottom of the hole at 55 feet. The maximum magnesium carbonate content was 15 per cent.

Hole DT-11 was drilled in Sec. 29, T8S, R10E, on State Highway 69 about 2 miles south of U. S. Highway 19. This highway runs roughly parallel to the river. The hole penetrated 15 feet of sand and was discontinued because of this heavy overburden.

Hole DT-12 was drilled in Sec. 29, T8S, R10E, on the dirt road leading to Steinhatchee Falls about ½ mile from Highway 69. This hole showed sandy limestone which became highly dolomitic towards the bottom.

Hole DT-13 was drilled in Sec. 29, T8S, R10E, near the falls on the Steinhatchee River about 100 feet from the bank. A ledge of dolomitic rock outcrops for some distance along the river at this place. This hole showed 2 feet of sand and clay, then 3 feet of sandy dolomitic limestone material. Between 5

and 15 feet, high grade magnesium limestone was found, the average magnesium carbonate content being 37 per cent. From 15 feet to the bottom of the hole at 20 feet, the quality dropped sharply.

Hole DT-14 was drilled in Sec. 5, T9S, R10E, near State Highway 69, about 5 miles southerly from Clara, and about ½ mile from the Steinhatchee River. This hole showed 15 feet of sand and was discontinued at that depth.

At the town of Steinhatchee in Sec. 25, T9S, R9E, Hole DT-15 was drilled on the roadside, near the ferry landing. After going through 10 feet of sand, a low grade limestone, very high in silica and showing 9 per cent $MgCO_3$ was encountered and continued to a depth of 30 feet, at which depth the magnesium carbonate content dropped below 5 per cent.

Hole DT-16 was drilled in Sec. 26, T9S, R9E, on the roadside about opposite Louis Mitchell's store and cafe. This hole showed only sand and mud to a depth of 30 feet, and was evidently drilled in a solution cavity.

In order to check this immediate locality, Hole DT-17 was put down about 300 feet farther west. This hole showed 10 feet of very siliceous limestone, and 25 feet of soft gray limestone. This hole was continued for geological information to a depth of 250 feet, and penetrated a slightly dolomitic limestone from 25 to 85 feet and a high grade magnesium limestone with the magnesium carbonate content running between 30 and 40 per cent, from 85 feet to the completed depth.

Dolomitic boulders occur in large numbers 2 miles northwest of Steinhatchee along a dirt road running roughly parallel to Deadman's Bay.

Hole DT-18 was drilled in Sec. 21, T9S, R9E, among the boulders between Bradley Spring and the marsh below. This hole was in sand and dolomitic boul-

ders to a depth of 5 feet.. At this point, low grade sandy limestone averaging 17 per cent magnesium carbonate was encountered which continued to the bottom of the hole at 30 feet.

Summarizing the results of the drilling along the Steinhatchee River, it seems that the dolomitic deposits are irregular and of variable quality. The area of high grade dolomitic limestone along the river is probably not more than $\frac{1}{4}$ mile wide and about 4 miles long. The evidence from Hole DT-9 together with information obtained from this work along the Steinhatchee River, however, indicates the probability of large quantities of dolomitic limestone between Hole DT-9 and the River. No work was attempted between the Steinhatchee River and Hole DT-9, because the few primitive roads which serve this territory could not be traveled by the trucks and drilling rig, however, this area should not be overlooked by anyone who might be interested in dolomitic limestone deposits. Good transportation facilities are available along the northeast side, either by the Atlantic Coast Line or by truck over U. S. Highway 19.

Dixie County

On the whole, Dixie County was found unfavorable for dolomitic limestone. Few surface outcrops or residual boulders are found. Some dolomitic boulders were seen along the Steinhatchee River in the northwestern part of the county, also along the shore of Horseshoe Beach. Most outcrops throughout the county are Ocala limestone, and are especially noticeable along and near the Suwannee River, which forms the eastern and southern boundary of the county.

The first drilling in this county was done near the mouth of the

TAYLOR COUNTY — LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-1							
0-5	40-35	Sand							
5-10	35-30	Same							
10-15	30-25	Same	3.9	0.64	0.12	0.24	0.11	0.2	93.53
15-20	25-20	Sand and clay	6.2	0.84	1.01	2.2	4.26	7.6	84.58
20-25	20-15	Sand a little lime (caving)	10.9	1.16	1.38	2.9	6.11	10.9	74.87
25-30	15-10	Sandy limestone	25.9	0.64	0.68	1.4	32.52	58.0	35.14
30-33	10-7								
		DT-1A							
10-5	39.5-34.5	Sand							
5-10	34.5-29.5	Sand and clay, some lime	5.2	3.75	0.06	0.12	8.69	15.5	71.40
10-15	29.5-24.5	Same	3.5	1.64	0.20	0.42	7.90	14.1	78.34
15-20	24.5-19.5	Same	2.7	1.16	0.22	0.45	9.25	16.5	77.70
20-23	19.5-16.5	Same	3.2	1.40	0.16	0.33	10.43	18.6	75.37

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-2							
0-1	29-28	Dark top soil							
1-3	28-26	Weathered dolomite	46.3	0.68	19.28	40.3	32.48	57.9	0.82
3-5	26-24	Sand and dolomitic lime	22.7	0.52	9.33	19.5	15.64	27.9	50.50
5-10	24-19	Dolomite - Some sand	42.4	0.32	17.65	36.9	29.28	52.2	10.13
10-15	19-14	Dolomitic limestone	45.7	0.64	19.46	40.7	31.91	56.9	2.33
15-20	14-9	Same	46.7	0.40	19.06	39.9	31.96	57.0	1.73
20-25	9-4	Same	46.0	0.16	17.33	36.2	34.65	61.8	1.69
25-30	4-1	Same	46.3	0.18	17.09	35.7	35.03	62.5	1.53
30-36	-1-7	hard dolomitic limestone	45.6	0.28	17.11	35.7	33.52	59.8	3.81
36-39	-7-9	Same	46.1	0.54	18.80	39.3	32.62	58.2	2.20
		DT-3							
0-5	14-9	Sand							
5-10	9-4	Dolomitic limestone	44.3	0.20	18.32	38.3	31.40	56.0	5.94
10-15	4-1	Sand dolomitic limestone	37.9	0.24	14.96	31.3	27.48	49.0	19.27

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-3 (Continued)							
15-20	41-6	Same	32.5	0.48	12.84	26.8	23.55	42.0	30.41
20-25	-6-11	Dolomitic limestone and sand	23.1	0.32	9.14	19.1	16.94	30.2	50.47
		DT-4							
0-5	8-3	Sand - some dolomitic lime							
5-10	3-2	Hard dolomitic lime	45.0	0.36	18.69	39.1	30.97	55.2	4.24
10-15	-2-7	Same	46.9	0.24	19.50	40.8	32.98	58.8	0.53
15-20	-7-12	Same	43.6	0.38	17.36	36.3	32.11	57.3	6.44
		DT-5							
0-5½	6.5-1.5	Sand and clay							
5½-10	1.5-3.5	Sandy dolomitic lime	36.4	1.16	8.20	17.1	32.19	57.4	19.70
10-15	-3.5-8.5	Hard dolomitic lime	46.4	0.34	13.67	28.6	37.19	66.4	0.79
15-20	-8.5-13.5	Same	44.6	0.54	8.88	18.6	41.87	74.7	1.71
20-25	-13.5-18.5	Same	42.3	0.32	9.62	20.1	37.02	66.1	9.90
25-30	-18.5-23.5	Softer dolomitic lime	46.7	0.26	17.07	35.7	34.68	61.9	0.69

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-5 (Continued)							
30-35	-23.5-28.5	Same	46.8	0.28	10.98	22.9	40.96	73.1	0.52
35-40	-28.5-33.5	Same	46.5	0.32	15.52	32.4	36.21	64.6	1.15
40-45	-33.5-38.5	Same	46.2	0.28	16.32	34.1	34.98	62.4	1.92
45-50	-38.5-43.5	Hard dolomitic lime	46.7	0.08	13.96	29.2	37.72	67.3	1.54
50-55	-43.5-48.5	Same	46.1	0.23	17.86	37.3	34.55	61.6	0.79
55-60	-48.5-53.5	Same	46.7	0.17	8.46	17.7	43.78	78.1	0.56
60-65	-53.5-58.5	Same	47.1	0.28	11.29	23.6	40.87	72.9	0.35
65-70	-58.5-63.5	Same	47.0	0.40	15.80	33.0	36.50	65.1	0.30
70-75	-63.5-68.5	Porous dolomitic lime	46.8	0.25	16.78	35.1	35.04	62.5	0.44
75-80	-68.5-73.5	Same	46.7	0.32	18.80	39.3	32.95	58.3	0.83
80-85	-73.5-78.5	Hard dolomitic lime	46.8	0.32	10.59	22.1	41.24	73.6	0.53
85-90	-78.5-83.5	Same (6" cavity 89.5'-90')	47.1	0.26	17.91	37.4	34.40	61.4	0.29
90-95	-83.5-88.5	Same	45.9	1.05	18.43	38.5	32.57	58.1	0.57
95-100	-88.5-93.5	Softer dolomitic lime	44.6	0.22	5.22	10.9	49.33	83.1	0.26
100-105	-93.5-98.5	Soft gray limestone	44.3	0.12	2.48	5.2	52.60	93.9	0.47

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	FeO_3	MgO	MgO_3	CaO	$CaCO_3$	SiO_2
				DT-5 (Continued)					
105-110	-98.5-103.5	Same	44.0	0.14	1.62	3.4	53.60	95.7	0.61
110-115	-103.5-108.5	Same	44.3	0.12	2.41	6.6	52.10	93.0	0.34
115-120	-108.5-113.5	Same	44.5	0.12	2.50	6.9	51.89	92.6	0.32
120-125	-113.5-118.5	Same	44.6	0.14	3.79	7.9	51.10	91.2	0.35
125-130	-118.5-123.5	Same	44.5	0.10	2.52	5.3	52.40	93.6	0.42
130-135	-123.5-128.5	Same	44.4	0.07	1.47	3.1	53.03	94.7	0.40
135-140	-128.5-133.5	Same	44.2	0.04	1.83	3.8	53.41	95.4	0.30
140-145	-133.5-138.5	Same	44.2	0.15	1.52	3.2	53.74	95.9	0.28
145-150	-138.5-143.5	Same	43.6	0.06	1.26	2.6	54.79	97.7	0.30
				DT-6					
0-10	16.5-6.5	Sand							
10-15	6.5-1.5	Sandy dolomitic lime	29.1	0.36	12.02	25.1	21.08	37.6	36.93
15-20	1.5-3.5	Same	29.7	0.42	12.22	25.5	21.42	38.2	35.94
20-25	3.5-8.5	Dolomitic lime	43.8	0.18	17.13	35.8	33.08	59.0	5.93

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-6 (Continued)							
25-30	-8.5 -13.5	Sandy dolomitic lime	37.2	0.23	15.25	31.9	27.35	48.8	19.86
30-32	-13.5 -15.5	Caving ground (no sample)							
		DT-7							
0-5	39.5 34.5	Sharp sand							
5-10	34.5 29.5	Same	0.65	0.30	0.10	0.20	0.18	0.32	98.20
10-15	29.5 24.5	White beach sand	0.29	0.17	0.08	0.16	0.14	0.25	99.08
15-20	24.5 19.5	Same	0.22	0.14	0.05	0.11	0.10	0.18	99.42
20-25	19.5 14.5	White beach sand	0.16	0.05	0.04	0.08	0.11	0.20	98.42
25-30	14.5 9.5	Same	0.18	0.07	0.05	0.11	0.08	0.15	98.57
30-35	9.5 4.5	Sandy brown limestone	17.99	0.39	3.72	7.77	18.52	33.06	58.82
35-38	4.5 1.5	Same	20.74	0.34	4.06	8.48	20.25	36.12	53.60
38-40	1.5 -0.5	Very sandy dolomitic limestone	13.93	0.30	4.57	9.56	10.46	18.66	68.96
40-43	-0.5 -3.5	Hard, sandy dolomitic limestone	39.99	0.82	6.76	14.13	34.81	62.10	16.84
43-45	-3.5 -5.5	Same	36.98	0.32	7.48	15.63	34.17	60.95	20.64

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	MgO_3	CaO	$CaCO_3$	SiO_2
		DT-7 (Continued)							
45-50	-5.5-10.5	Hard brown dolomitic limestone	44.52	3.86	7.82	16.35	40.80	72.80	2.33
50-55	-10.5-15.5	Mixed hard and soft dolomite	44.90	0.55	6.08	12.70	43.21	77.10	4.93
55-60	-15.5-20.5	Soft dolomite	44.59	0.21	8.77	18.34	40.18	71.70	5.42
60-65	-20.5-25.5	Same	39.81	0.38	10.17	21.24	43.52	77.68	5.74
65-70	-25.5-30.5	Sand dolomitic limestone	30.48	0.29	12.23	25.57	21.98	39.22	33.94
70-75	-30.5-35.5	Same	32.69	0.34	9.17	19.06	27.56	49.16	30.27
75-80	-35.5-40.5	Sand, slightly calcareous	4.07	0.12	0.67	1.39	3.69	6.58	91.29
80-85	-40.5-45.5	Very sandy dolomitic lime	16.99	0.15	3.25	6.78	16.92	30.19	62.58
85-90	-45.5-50.5	Same	15.92	0.11	1.37	2.86	18.05	32.21	64.37
90-95	-50.5-55.5	Sandy gray limestone	20.42	0.11	1.57	3.27	23.78	42.82	53.93
95-100	-55.5-60.5	Same	25.99	0.11	1.74	3.64	30.46	54.33	41.75
100-105	-60.5-65.5	Same	30.00	0.13	1.74	3.62	34.65	62.20	33.05
105-110	-65.5-70.5	Same	32.36	0.14	1.55	3.25	38.26	68.26	27.63
110-115	-70.5-75.5	Gray limestone less sandy	35.58	0.12	1.42	2.96	42.69	76.14	20.08
115-120	-75.5-80.5	Same	39.26	0.13	1.66	3.47	47.12	84.10	11.40

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-8							
0-5	43-38	Fine, brown sand							
5-10	38-33	Same							
10-13	33-30	Same							
		DT-9							
0-5	34-29	Sand with lime fragments							
5-10	29-24	Sandy limestone							
10-15	24-19	Soft, sandy dolomitic lime	34.83	0.39	14.15	29.59	23.90	42.66	25.09
15-20	19-14	Same	41.05	0.32	16.76	35.13	28.78	51.35	13.08
20-25	14-9	Same	38.25	0.43	15.70	32.82	26.60	47.47	17.68
25-30	9-4	Same	35.52	0.50	16.20	33.87	27.51	49.10	14.56
30-35	4-1	Harder, sandy dolomitic							
		lime	36.61	0.43	14.99	31.34	25.29	45.12	22.23
35-40	-1-6	Same	42.65	0.50	16.89	35.32	29.99	53.50	10.32

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
				DT-10					
0-5	19-14	Sandy dolomitic lime	26.20	1.43	5.73	11.98	23.55	42.03	40.48
5-10	14-9	Same	38.47	0.37	8.35	17.45	37.35	66.68	14.19
10-15	9-4	Brown dolomitic lime	45.92	0.11	13.21	27.62	39.74	70.97	1.22
15-20	4- -1	Same	44.37	0.16	5.20	10.87	49.43	87.90	0.86
20-25	-1- -6	Hard, gray lime slightly							
		dolomitic	44.15	0.11	2.56	5.28	52.78	94.20	0.49
25-30	-6- -11	Same	44.15	0.13	2.57	5.36	52.42	93.60	0.65
30-35	-11- -16	Soft, gray, limestone	44.46	0.15	2.15	4.49	53.31	95.19	0.32
35-40	-16- -21	Same	44.12	0.14	2.10	4.38	53.44	95.43	0.35
40-45	-21- -26	Same (Cavity43'-45')	43.78	0.23	1.55	3.23	53.87	96.20	0.20
45-50	-26- -31	Soft, gray dolomitic lime	43.79	0.13	10.96	22.91	42.03	74.98	0.67
50-55	-31- -36	Same	45.51	0.16	11.03	23.05	42.83	76.46	0.29
55-60	-36- -41	Same	48.34	0.15	16.68	34.86	35.12	62.70	0.13
60-62	-41 - -43	Same	48.13	0.17	17.42	36.40	34.02	60.70	0.31

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-11							
0-5	20-15	Sand							
5-10	15-10	Same							
10-15	10-5	Same							
		DT-12							
0-5	17-12	Sandy clay and lime	30.53	0.85	0.86	1.83	37.29	66.50	29.80
5-10	12-7	Sandy gray limestone	38.11	0.40	0.52	1.09	47.32	84.84	13.40
10-15	7-2	Same	40.63	0.29	0.96	2.76	49.85	88.97	7.75
15-20	2-(-3)	Gray, dolomitic limestone	42.56	0.29	3.49	7.33	48.38	86.30	3.79
20-25	-3-(-8)	Same	43.44	0.26	6.21	12.97	46.60	83.14	3.20
		DT-13							
0-2	14-12	Sandy clay							
2-5	12-9	Sandy dolomite	40.50	0.96	12.76	26.7	33.41	59.6	10.85
5-10	9-4	Dolomite	46.10	0.18	18.20	38.1	34.15	60.7	1.19
10-15	4-(-1)	Same	46.80	0.12	17.07	35.68	34.49	61.50	0.49

TAYLOR COUNTY

Depth	Elev	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-13 (Continued)							
15-20	-1- -6	Soft magnesium lime-stone	45.20	0.17	8.68	18.14	45.44	81.09	0.44
20-23	-6- -9	Soft gray limestone							
		DT-14							
0-5	18-13	Sand							
5-10	13-18	Same							
10-12	8-6	Same							
		DT-15							
0-5	8.5-3.5	Yellow sand							
5-10	3.5- -1.5	Same							
10-15	-1.5- -6.5	Sandy limestone	30.15	0.43	4.63	9.69	31.63	56.46	32.61
15-20	-6.5- -11.5	Same	32.30	0.33	4.74	9.91	24.74	60.74	27.67
20-25	-11.5- -16.5	Same	38.48	0.17	2.87	6.00	45.11	80.52	13.45
25-30	-16.5- -21.5	Sandy, soft limestone	29.06	0.23	3.97	8.30	31.39	76.22	34.95

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-15 (Continued)							
30-35	-21.5-26.5	Same	21.11	0.16	2.13	4.45	23.02	41.08	49.69
35-40	-26.5-31.5	Same	16.19	0.22	0.95	2.00	18.82	33.59	63.18
40-45	-31.5-36.5	Sandy, soft limestone	26.84	0.16	1.64	3.42	32.31	57.67	39.36
45-50	-36.5-41.5	Same	36.75	0.11	3.26	6.81	42.28	45.45	17.60
		DT-16							
0-5	5-0	Brown sand and mud							
5-10	0-5	Same							
10-15	-5-10	Same							
15-20	-10-15	Same							
20-25	-15-20	Same							
25-30	-20-25	Same							
		DT-17							
0-2	4.5-2.5	Sand	0.50	0.12	0.17	0.30	0.51	0.90	99.29

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-17 (Continued)							
2-5	2.5- -0.5	Sand and limestone	14.84	0.48	0.38	0.79	16.72	29.83	66.46
5-10	-0-5- -5.5	Sandy limestone	38.28	0.40	0.71	1.48	47.13	84.19	13.19
10-15	-5.5- -10.5	Same	38.80	0.30	0.74	1.54	48.25	86.13	11.77
15-20	-10.5- -15.5	Sand, soft limestone	42.94	0.12	0.67	1.39	53.90	96.20	12.19
20-25	-15.5- -20.5	Soft, gray limestone	43.13	0.16	0.67	1.39	53.99	96.38	1.76
25-30	-20.5- -25.5	Same	44.01	0.12	4.15	8.69	50.70	90.50	1.07
30-35	-25.5- -30.5	Hard magnesium lime-stone	44.71	0.12	7.56	15.82	47.04	84.00	0.69
35-40	-30.5- -35.5	Soft magnesium lime stone	45.52	0.08	12.67	26.50	40.90	73.00	1.01
40-45	-35.5- -40.5	Same	45.46	0.12	11.54	24.22	42.57	76.00	0.57
45-50	-40.5- -45.5	Same	44.52	0.12	6.12	12.82	48.78	87.09	0.51
50-55	-45.5- -50.5	Same	44.50	0.08	5.01	10.48	49.90	89.10	0.78
55-60	-50.5- -55.5	Same	44.29	0.08	4.78	9.99	50.24	89.70	0.96
60-65	-55.5- -60.5	Same	44.18	0.08	3.20	6.69	52.20	93.18	0.70
65-70	-60.5- -65.5	Same	44.40	0.08	5.12	10.73	49.27	87.96	0.78
70-75	-65.5- -70.5	Same	44.08	0.10	4.98	10.42	49.84	88.97	1.26
75-80	-70.5- -75.5	Same	45.09	0.12	12.15	25.42	41.54	74.19	0.91

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-17 (Continued)							
80-85	75.5-80.5	Soft dolomite	46.54	0.08	14.03	30.02	38.20	68.20	0.39
85-90	-80.5-85.5	Hard, brown dolomite	43.06	0.16	15.02	31.40	34.83	62.20	7.27
90-95	-85.5-90.5	Same	46.59	0.08	16.60	34.72	36.21	64.32	0.67
95-100	-90.5-95.5	Same	46.51	0.10	17.67	36.95	35.06	62.60	0.80
100-105	-95.5-100.5	Same	46.54	0.10	16.78	35.10	34.10	60.84	2.72
105-110	-100.5-105.5	Same	46.02	0.12	18.46	38.60	32.63	58.24	3.00
110-115	-105.5-110.5	Same	46.90	0.08	18.09	37.80	33.36	59.40	1.66
115-120	-110.5-115.5	Same	46.54	0.08	18.26	38.19	34.22	61.06	1.51
120-125	-115.5-120.5	Same	46.80	0.12	18.15	37.95	34.47	61.50	0.52
125-130	-120.5-125.5	Same	45.81	0.12	18.46	38.46	32.39	57.84	3.38
130-135	-125.5-130.5	Hard, sandy magnesium lime	35.36	0.10	14.32	29.92	25.00	44.65	25.13
135-140	-130.5-135.5	Sandy dolomite	41.77	0.16	16.72	34.93	29.15	52.04	12.30
140-145	-135.5-140.5	Same	41.52	0.16	16.52	35.17	29.52	52.73	11.84
145-150	-140.5-145.5	Same	42.74	0.10	17.23	36.00	30.24	54.02	9.22
150-155	-145.5-150.5	Same	42.46	0.29	17.05	35.65	30.00	53.60	10.06
155-160	-150.5-155.5	Same	37.29	0.16	14.46	30.22	26.63	47.56	21.54

TAYLOR COUNTY

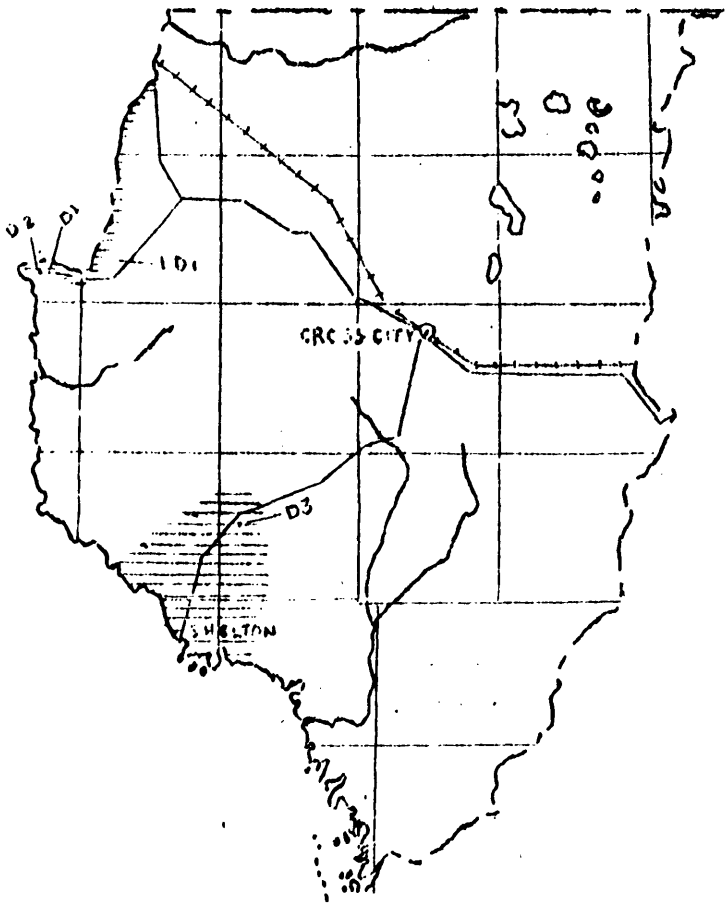
Depth	Elev.	Char. of material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
				DT-17 (Continued)					
160-165	-155.5-160.5	Softer, brown dolomite	45.31	0.19	18.87	39.43	31.26	55.83	3.85
165-170	-160.5-165.5	Same	46.21	0.16	18.94	39.54	31.70	56.30	2.01
170-175	-165.5-170.5	Same	45.08	0.14	18.45	38.55	31.09	55.50	4.62
175-180	-170.5-175.5	Same	46.66	0.17	18.65	38.99	31.25	55.80	3.17
180-185	-175.5-180.5	Softer, brown dolomite	45.39	0.11	18.37	38.41	30.90	55.20	4.45
185-190	-180.5-185.5	Hard, porous dolomite	45.31	0.12	18.29	38.20	30.44	54.39	5.74
190-195	-185.5-190.5	Same	46.40	0.12	18.84	39.36	31.60	56.44	2.66
195-200	-190.5-195.5	Same	45.77	0.14	18.56	38.80	31.62	56.50	3.23
200-205	-195.5-200.5	Same	45.84	0.12	18.35	38.38	31.79	56.80	3.75
205-210	-200.5-205.5	Same	45.08	0.11	18.00	37.60	31.36	56.00	4.80
210-215	-205.5-210.5	Same	45.24	0.13	17.36	36.30	29.91	53.40	7.32
215-220	-210.5-215.5	Same	45.95	0.15	18.52	38.71	31.80	56.80	2.88
220-225	-215.5-220.5	Same	46.37	0.12	18.46	38.60	32.41	57.70	2.17
225-230	-220.5-225.5	Hard, porous dolomite	45.02	0.12	17.95	37.50	31.40	56.24	5.03
230-235	-225.5-230.5	Same	45.66	0.10	18.00	37.60	31.59	56.40	4.06
235-240	-230.5-235.5	Same	45.83	0.12	18.62	38.90	13.78	56.76	3.03

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-17 (Continued)							
240-245	-235.5-240.5	Same	45.25	0.17	18.40	38.46	31.55	56.36	4.16
245-250	-240.5-245.5	Same	45.69	0.14	18.57	38.82	32.17	57.40	3.45
		DT-18							
0-2	7.5-5.5	Sand							
2-5	5.5-2.5	Very sandy magnesium lime							
5-10	2.5-2.5	Very sandy magnesium lime	22.25	0.50	7.04	14.72	13.36	32.78	51.07
10-15	-2.5-7.5	Same	20.31	0.38	7.27	15.68	15.29	27.30	55.94
15-20	-7.5-12.5	Same	32.01	0.40	11.58	24.22	25.15	44.85	30.64
20-25	-12.5-17.5	Sandy magnesium lime	38.30	0.38	8.75	18.30	35.95	64.15	16.20
25-30	-17.5-22.5	Same	33.86	0.40	5.69	11.90	41.17	73.43	13.59
		DT-19							
0-5	23-18	Sand and dolomitic boulders							
5-10	18-13	Very sandy magnesium lime	23.1	0.87	7.20	15.1	13.96	35.6	47.26
10-15	13-8	Same	16.9	0.76	6.23	13.0	13.01	23.2	62.23

TAYLOR COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DT-19 (Continued)							
15-20	8-3	Same	14.5	1.28	4.53	9.5	11.33	20.2	67.22
20-25	3-2	Same	15.6	0.81	4.03	8.4	13.12	23.4	65.22
25-30	-2-7	Same	31.3	1.42	6.72	14.1	29.71	53.0	28.60
30-35	-7-12	Same	18.8	0.46	5.88	12.3	16.04	28.6	58.45
35-40	-12-17	Same	23.6	0.56	6.87	14.4	20.98	37.4	47.77
40-45	-17-22	Same	27.3	0.50	7.07	14.8	24.68	44.0	39.72
45-50	-22-27	Same	18.0	0.80	6.43	13.5	13.69	24.4	59.99
50-55	-27-32	Same	14.0	0.66	4.23	8.8	11.78	21.0	68.59



LEGEND

Areas of doubtful commercial value

10 0 10 Miles

Dolomitic stations are represented by the letter "D" followed by a numeral.

Limestone stations are represented by the letter "L" followed by a numeral.

Map of Dixie County showing dolomitic areas and locations of test wells.

Steinhatchee River at Stewart City, opposite Steinhatchee on the Taylor County side of the river. Hole DD-1 was put down in Sec. 26, T9S, R9E, along State Highway 295, about ½ mile below the ferry landing, near the residence of Mr. Fletcher. Medium and low grade magnesium limestone was penetrated after going through 10 feet of sand overburden. This condition continued to the bottom of the hole at 25 feet. The best of this material showed 29 per cent magnesium carbonate.

Hole DD-2 was drilled in Sec. 26, T9S, R9E, about ¼ mile beyond the end of State Highway 295 where dolomitic boulders and boulders of Ocala limestone outcrop. The hole penetrated 5 feet of sandy overburden and very low grade magnesium limestone and 15 feet of low grade magnesium limestone which averaged 26 per cent magnesium carbonate. The quality dropped sharply below 20 feet and the hole was stopped at 25 feet.

Hole DD-3 was drilled in Sec. 18, T11S, R11E, on State Highway 289, between Cross City and Shelton or Horseshoe Beach, at a point 13 miles from U. S. Highway 19 at Cross City. This location was near a school on the south side of the highway. This penetrated 10 feet of sand and limestone fragments and 5 feet of low grade magnesium limestone which when analyzed showed about 25 per cent magnesium carbonate. Below 15 feet the magnesium carbonate content decreased rapidly and the hole was stopped at 20 feet.

As stated above, a few dolomitic boulders were observed along the shore at Horseshoe Beach and it is possible that a narrow deposit lies along the beach in this section. Reports on wells drilled here, however, are not encouraging.

Levy County

Dolomitic limestones have been recognized in Levy County for several

DIXIE COUNTY — LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DD-1							
0-10	6-4	Sand							
10-15	-4-9	Sandy dolomitic lime	37.8	1.79	13.46	28.1	29.94	53.4	14.90
15-20	-9-14	Gray dolomitic lime	43.3	0.32	4.49	9.4	49.04	87.5	1.98
20-25	-14-19	Same	43.6	0.23	3.61	7.5	51.38	91.6	1.02
25-30	-19-24	Same	43.6	0.28	13.88	29.0	36.79	65.6	4.75
30-35	-24-29	Same	43.5	0.28	11.04	23.1	40.71	72.6	4.26
35-40	-29-34	Same	44.0	0.15	6.70	14.0	47.30	84.4	1.24
		DD-2							
0-3	6-3	Sand							
3-5	3-1	Very sandy dolomitic lime	18.88	0.20	7.64	15.97	12.02	21.45	60.85
5-10	1-4	Sandy dolomitic lime	33.39	0.99	12.75	26.30	23.25	41.45	27.71
10-15	-4-9	Same	37.38	0.46	12.17	25.42	28.80	51.40	19.30
15-20	-9-14	Same	42.20	0.29	13.43	28.08	34.60	61.70	8.62
20-25	-14-19	Same	42.04	0.24	8.55	17.87	41.05	73.20	7.06
		DD-3							
0-10	15-5	Sand							
10-12	5-3	Sandy dolomite	38.7	0.26	12.05	25.2	33.20	59.2	15.34
12-15	3-0	Same	35.2	0.25	11.58	24.2	28.65	51.1	23.45
15-20	0-5	Calcareous sand (caving)	17.7	0.26	6.26	13.1	14.42	25.7	61.48

years, the Dixie Lime Products Company having mined this material for agricultural limestone since 1934. Their pit is located in Sec. 12, T16S, R16E. The Cummer Lime and Manufacturing Company, Box 4640, Jacksonville, has done considerable prospecting about two miles south of Ellzey, and preliminary investigation by the Florida Geological Survey showed other important and extensive potential dolomitic areas in the county.

Prospecting in Levy County was begun at Gulf Hammock and adjacent territory. Hole DL-1 was drilled in Sec. 21, T14S, R16E, on State Highway 15 near the side road leading to Hotel Hammock. Medium grade magnesium limestone, high in silica, was penetrated in this hole from 1 to 4 feet, and a high grade magnesium limestone continued from 4 feet to a depth of 25 feet, and averaged 38 per cent magnesium carbonate with a low silica content. Below 25 feet the magnesium carbonate content dropped to about 31 per cent, and the hole was stopped at 30 feet.

Hole DL-2 was put down in Sec. 21, T14S, R16E, near the Gulf Hammock school in Sec. 21, T14S, R16E. This hole showed 10 feet of low grade magnesium limestone averaging 25 per cent magnesium carbonate. At this level a high grade dolomitic limestone was entered. This continued to the bottom of the hole at 25 feet, and showed an average magnesium carbonate content for this 15 foot thickness of about 38 per cent.

Hole DL-3 was drilled in SE$\frac{1}{4}$ Sec. 28, T14S, R16E, on State Highway 15 about 2 miles southeast of Gulf Hammock. This hole went down 12 feet in sand and clay showing it to be outside the dolomitic area in and adjacent to Gulf Hammock.

The rig was moved back 0.7 of a mile southeast of Gulf Hammock to T. J. Peek's store in NW$\frac{1}{4}$ Sec. 28, T19S, R16E, where Hole DL-18 was put down.

After going through two feet of sand, a high grade dolomitic limestone was entered. This continued with little variation to the bottom of the hole at 40 feet. The average magnesium carbonate content for this 38 feet was 36 per cent. This hole is exceptional both in thickness and uniform quality.

Hole DL-4 was drilled 1 3/4 miles from Gulf Hammock in Sec. 16, T14S, R16E, on the county road running northeasterly from Gulf Hammock at a point near Wekiva Creek. The drill penetrated 1 foot of sand, 6 feet of siliceous limestone, 5 feet of low grade dolomitic limestone, and 13 feet of high grade dolomitic limestone. The hole was stopped at a depth of 25 feet, still in high grade dolomitic limestone. The magnesium carbonate content for the lower 13 feet was 36 per cent.

Hole DL-19 was put down in Sec. 22, T14S, R16E, on the Wekiva Road, at the Smallwood farm, about two miles northeast of Gulf Hammock. This hole showed only a very siliceous limestone to a depth of 25 feet, and is evidently east of the dolomitic limestone area.

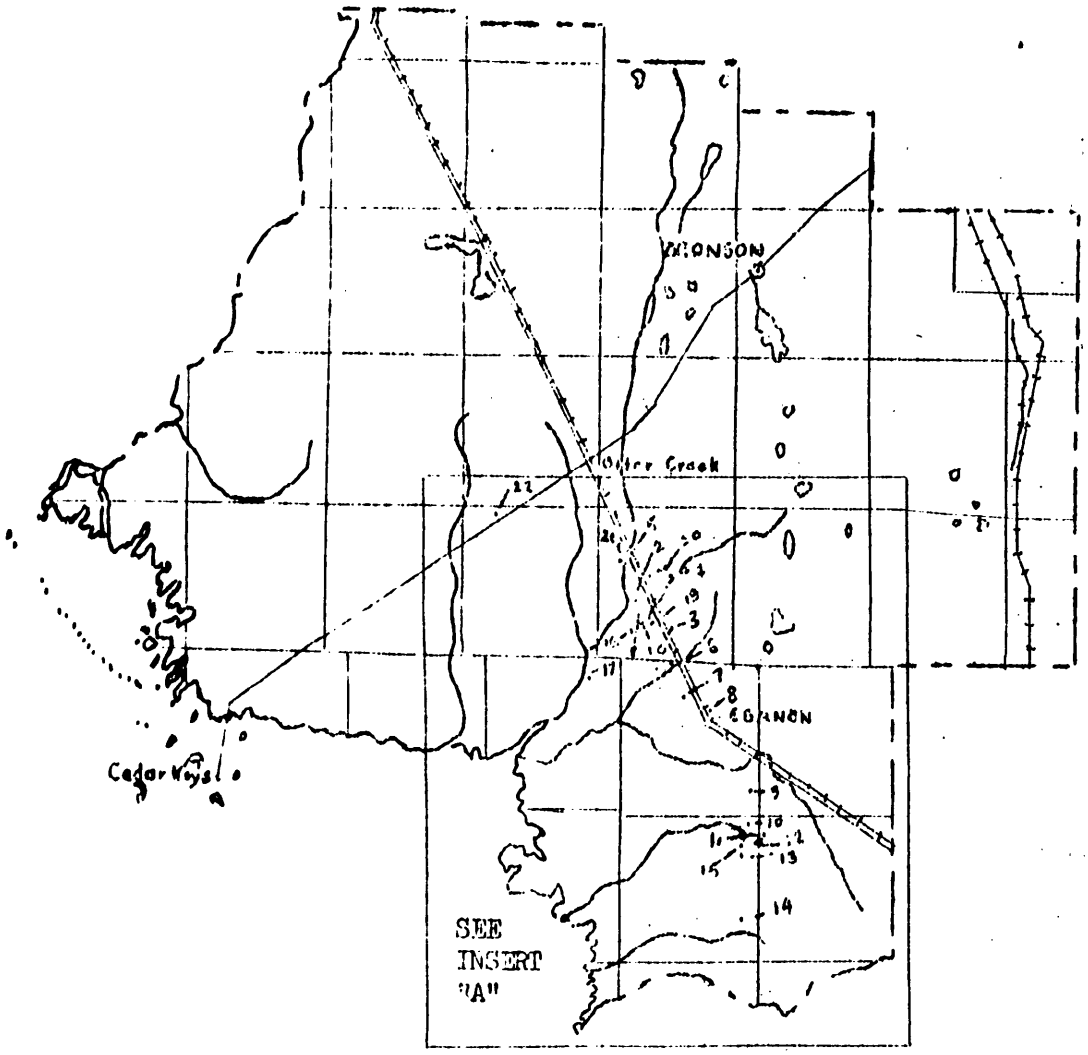
Hole DL-20 was drilled in Sec. 16, T14S, R16E, about 1 mile northeast of Gulf Hammock on the Wekiva road. This hole after going through 5 feet of siliceous limestone, entered a bed of low grade dolomitic limestone which continued to a depth of 25 feet. The average magnesium carbonate content was about 27 per cent with a very high silica content.

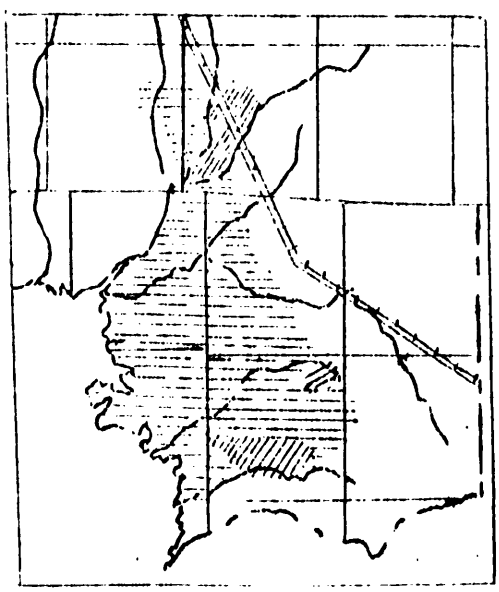
In order to determine the extent of the dolomite deposit north of Gulf Hammock, Hole DL-5 was put down in Sec. 17, T14S, R16E, on State Highway 15, 1½ miles northerly from Gulf Hammock a short distance south of Waccasassa River. After going through 5 feet of sandy low grade dolomitic limestone a medium grade of dolomitic limestone was found for 10 feet. This averaged 31 per cent magnesium carbonate. A high grade dolomitic limestone was found at 15 feet which

continued to 25 feet, the bottom of the hole. The magnesium carbonate content for this lower bed was 38 per cent. It is well to mention that in cutting a channel along the Waccasassa River many dolomitic rocks were thrown out on the bank. This further supports the opinion that the Gulf Hammock deposits extend northwesterly at least to the Waccasassa River.

Hole DL-21 was drilled along State Highway 15 at a point two miles northerly from Gulf Hammock in Sec. 8, T14S, R16E. This hole went through 8 feet of sand and clay overburden, and 7 feet of low grade magnesium limestone with a magnesium carbonate content of 24 per cent. Below 15 feet, the material dropped sharply in magnesium carbonate, and this condition continued to the bottom of the hole at 40 feet. The results obtained from this hole indicate that the dolomitic limestone on the northwest side of the Waccasassa River is of lower grade than that on the southeast side. However, sufficient work was not done to draw definite conclusions, as hand auger borings indicate that the dolomitic deposit extends across Otter Creek at least as far as Sec. 11, T14S, R15E, where some prospecting was done a few years ago by the Cummer Lime and Manufacturing Company. North of this point to Ellzey, outcrops show siliceous limestone, indicating the dolomitic area is probably narrow and irregular. All of this section north and west of the Waccasassa River is a low, wet, hammock, where there are no good roads. Drilling in this area was done during a rainy season and it was not possible to get the drilling rig into this particular section.

Hole DL-22 was put down in Sec. 5, T14S, R15E, along the State Highway 13 near an old limestone pit, two miles southwest of Ellzey. Below 3 feet of sand, a soft gray siliceous limestone was found to a depth of 10 feet. Below this depth the material was less siliceous to the bottom of the hole at 20





INSERT "A"

LEGEND

Areas of potential commercial value.

Areas of doubtful commercial value.

10 0 10 Miles

Dolomitic stations are represented by numerals.

Map of Levy County showing dolomitic areas and locations of test wells.

feet, but none of it was dolomitic.

In order to determine the extent of the deposit southwest of Gulf Hammock, Hole DL-16 was drilled in Sec. 29, T14S, R16E, on a narrow paved road running southwesterly from Gulf Hammock, at a point 1½ miles southwest of the town. The hole penetrated 2½ feet of sand, and 12½ feet of medium grade, siliceous, dolomitic limestone averaging about 30 per cent magnesium carbonate. From 15 feet to a depth of 35 feet the magnesium carbonate content dropped considerably, but gradually increased from 35 to 50 feet, the bottom of the hole. The average silica content for the dolomitic limestone section was about 11 per cent.

Hole DL-19 was put down in Sec. 2, T15S, R15E, southwesterly from DL-16, along a dirt road leading to the site of an old fiber factory. The sand bed was 2½ feet thick at this point, and overlies a medium grade of dolomitic limestone. This continued to a depth of 20 feet with an average magnesium carbonate content of about 33 per cent. Below 20 feet the magnesium carbonate dropped sharply, and this condition continued to 50 feet, the bottom of the hole.

It is quite probable that the dolomitic formation outcrops southwesterly to Waccasassa Bay, but it was impossible to move the rig farther down the road, so it was necessary to abandon the work in that direction.

The drilling around Gulf Hammock indicates that there is a large area of rather high grade dolomitic limestone in this immediate vicinity. This potential area is designated on the map of Levy County. A general estimate indicates a potential area of about 125,000,000 tons averaging 36 per cent magnesium carbonate. The overburden is shallow and would not be difficult to remove.

This dolomitic limestone underlies a low hammock section, and water would present a serious problem if it were attempted to mine to the bottom of deposit. Water could be pumped out of the pit to a depth of 10 or 15 feet, without great difficulty, or the limestone could be mined under water from dredges or by dragline excavators. Transportation facilities are good as the main line of the Atlantic Coast Line Railroad passes through the area, and a hard surfaced highway is available for possible trucking operations.

A block of dolomitic material of slightly lower grade averaging about 30 per cent magnesium carbonate, lying southwesterly from the above deposit and roughly parallel to the Waccasassa River is available. This area is probably about 1 mile wide and at least 3 miles long. No attempt has been made to figure tonnages as this area is farther removed from transportation facilities and the water problem would be greater.

The investigation of other Levy County deposits being continued Hole DL-6 was drilled in Sec. 4, T15S, R16E, along State Highway 15 at a point 2 3/4 miles southeast of Gulf Hammock. This hole was unsatisfactory as 15 feet of sand was found, and it was abandoned at that depth.

Hole DL-7 was put down in Sec. 9, T15S, R16E, southeasterly on Highway 15,4 miles from Gulf Hammock, and penetrated a low grade fossiliferous dolomitic limestone at a depth of 2 feet. This formation continued to a depth of 15 feet where the hole was discontinued.

Hole DL-8 was drilled in SW¼ Sec. 10, T15S, R16E, on Highway 15 at a point 3½ miles northwest of Lebanon Station. This hole showed siliceous gray limestone from the surface to 15 feet, at which point the material changed to a siliceous low grade limestone averaging 17 per cent magnesium carbonate. This

bed continued to 25 feet where the hole was stopped.

While these test holes along Highway 15 were quite unfavorable, there is nevertheless some dolomitic rock in this territory. A pit about 200 yards from the road, 3½ miles southeast of Gulf Hammock, exposes a good quality of dolomitic limestone, a surface sample there showing 38.8 per cent magnesium carbonate. The deposits are irregular and would require intensive prospecting to trace out.

No further tests were made along State Highway 15, as a sand ridge covers the deposit as Lebanon Station is approached. The next drilling was done on Highway 15 at a point 2 miles south of Lebanon Station, in Sec. 36, T15S, R16E. This Hole, DL-9 went through 25 feet of sand where it was stopped.

Hole DL-10 was put down in Sec. 1, T16S, R16E, 3 miles south of Lebanon Station. Results there showed the same situation as above and the hole was stopped at 25 feet, showing it to be in the same sand area. Dolomitic boulders outcrop, however, about a mile west of this hole.

Continuing south toward old Lebanon Hole DL-11 was drilled in Sec. 6, T16S, R19E, at a point 3.0 miles south of Lebanon Station in Sec. 6, T16S, R17E. A very siliceous limestone was encountered after going through 15 feet of sand and it became slightly dolomitic at 19 feet. This formation continued to 30 feet where the hole was stopped, as unfavorable.

Hole DL-12 was drilled in Sec. 12, T16S, R16E, at old Lebanon. A siliceous, gray, slightly dolomitic limestone was encountered after going through 2 feet of sand. This continued to a depth of 15 feet. Below this point the magnesium carbonate content decreased, and the hole was abandoned at 30 feet.

Hole DL-13 was put down in the SW¼ Sec. 12, T16S, R16E, on the old Inglis Road near the old dolomite pit of the Dixie Lime Products Company. This hole showed very siliceous limestone to a depth of 20 feet, and the hole was discontinued. The thick sand section in this hole shows how quickly the dolomitic formation may change, as the old pit about 200 yards northwesterly from this hole was mined for several years from which a large tonnage of dolomitic limestone was removed.

Hole DL-15 was drilled in the NW¼ Sec. 12, T16S, R16E, on the south side of the present pit of the Dixie Lime Products Company. The test hole penetrated 4 feet of sand, 10 feet of low grade siliceous dolomitic limestone averaging about 20 per cent magnesium carbonate, and 15 feet of high grade dolomitic limestone averaging 36.2 per cent magnesium carbonate. The total depth of the hole was 35 feet.

It is quite possible that the rock underlying the area between the Gulf Hammock and the Dixie Lime Products Company pit is dolomitic for the entire distance of about 10 miles; at least, it is probable that dolomitic deposits occur intermittenly. Surface indications support this opinion. It was not practicable to drill this section, however, as there are few roads over which a drilling rig may be transported, especially in wet weather.

Hole DL-14 was drilled in Sec. 25, T16S, R16E, along State Highway 15 at the intersection of the new graded road and the old rock road. This hole was disappointing, as it showed sand overburden to a depth of 20 feet where a very siliceous low grade limestone was penetrated. Drilling was stopped at 25 feet.

No more drilling was done south of this point toward Inglis, as surface

LEVY COUNTY — LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-1							
0-1	13-12	Sand and clay							
1-5	12-8	Sandy magnesium lime	42.9	0.52	12.35	25.8	36.15	64.5	7.46
5-8	8-5	Soft dolomite	45.8	0.36	17.61	36.8	33.49	59.7	1.81
8-10	5-3	Harder dolomite	46.3	0.30	18.64	39.0	33.92	60.5	0.78
10-15	3-2	Same	46.3	0.26	18.74	39.2	33.31	59.4	0.76
15-20	-2-7	Same	46.0	0.28	18.59	38.9	33.37	59.5	0.08
20-25	-7-12	Dolomite slightly sandy	44.4	0.22	17.49	36.6	32.69	58.3	4.28
25-30	-12-17	Dolomitic limestone	44.4	0.35	14.76	30.9	37.45	66.8	1.06
		DL-2							
0-5	12-7	Sandy magnesium lime	31.4	1.68	9.41	19.7	26.07	46.5	29.70
5-10	7-2	Sandy medium dolomite	39.9	0.68	14.74	30.9	30.11	53.7	13.15
10-15	2-3	Soft, brown dolomite	45.0	0.28	17.73	37.1	33.31	59.4	2.93
15-20	-3-8	Same	45.4	0.26	17.85	37.3	33.39	59.6	2.57
20-25	-8-13	Same	46.0	0.25	18.55	38.8	33.43	59.6	1.18

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-3							
0-5	11.5-6.5	Sand							
5-10	6.5-1.5	Sand and clay							
10-12	1.5-0.5	Same							
		DL-4							
0-1	17-16	Sand							
1-7	16-10	Soft, sandy limestone	22.84	1.04	1.82	3.81	24.82	44.31	47.67
7-12	10-5	Sandy magnesium limestone	37.62	1.05	11.00	22.99	31.70	56.58	17.82
12-15	5-2	Brown dolomite	46.46	0.43	16.70	34.92	34.93	62.39	1.69
15-20	2-3	Gray dolomite	45.09	0.55	17.48	36.55	33.90	60.50	1.67
20-25	-3-8	Same	44.83	0.52	17.52	36.65	33.22	59.30	0.80
		DL-5							
0-5	15-10	Sandy dolomitic lime							
5-10	10-5	Sandy, medium dolomite	44.01	0.80	15.29	31.91	34.12	60.90	5.15
10-15	5-0	Same	44.27	0.56	14.89	31.16	36.62	65.35	2.13

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-5 (Continued)							
15-20	0-5	Soft dolomite	45.93	0.46	18.88	39.50	33.10	59.10	2.95
20-25	-5-10	Same	45.15	0.47	17.48	36.58	32.65	58.27	3.33
		DL-6							
0-5	11-6	Red clay and lime fragments							
5-10	6-1	Lime and pipe clay							
10-15	1-4	Sand							
		DL-7							
0-2	11-9	Sand							
2-5	9-6	Fossiliferous dolomitic lime	Samples lost not analyzed						
5-10	6-1	Dolomitic limestone							
10-15	1-4	Same							

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-8							
0-5	11.5-6.5	Sandy gray limestone	37.79	4.13	1.04	2.18	45.06	80.44	10.70
5-10	6.5-1.5	Same	30.81	3.46	0.42	0.88	36.61	65.38	26.24
10-15	1.5--3.5	Same	30.29	2.60	0.82	2.48	36.09	63.02	27.84
15-20	-3.5--8.5	Sandy magnesium lime	31.30	2.52	8.34	17.44	27.82	49.67	27.82
20-25	-8.5--13.5	Same	30.02	2.41	7.82	16.36	26.30	46.95	31.06
		DL-9							
0-5	30-25	Sand							
5-10	25-20	Same							
10-15	20-15	Sand							
15-20	15-10	Same							
20-25	10-5	Same							
		DL-10							
0-5	40.5-35.5	Sand							
5-10	35.5-30.5	Same							

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-10 (Continued)							
10-15	30.5-25.5	Same							
15-20	25.5-20.5	Same							
20-25	20.5-15.5	Same							
		DL-11							
0-5	43.5-38.5	Sand							
5-10	38.5-33.5	Same							
10-15	33.5-28.5	Same							
15-19	28.5-24.5	Very sandy limestone	23.62	0.24	1.36	2.85	27.69	49.43	45.68
19-25	24.5-18.5	Sandy lime -- slightly dolomitic	40.05	0.33	3.33	6.96	44.04	78.64	10.16
25-30	18.5-13.5	Same	40.26	0.40	2.93	6.12	44.30	79.10	9.23
		DL-12							
0-2	35.5-33.5	Sand							
2-5	33.5-30.5	Sandy lime, slightly dolomitic	37.75	0.60	2.51	5.24	43.63	77.98	13.92
5-10	30.5-25.5	Same	36.55	0.98	2.90	6.06	40.57	72.44	16.26

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-12 (Continued)							
10-15	25.5-20.5	Same	40.88	0.47	3.38	7.06	46.62	83.27	6.77
15-20	20.5-15.5	Same	41.08	0.28	1.99	4.15	49.52	88.49	4.48
20-25	15.5-10.5	Same	41.07	0.24	1.33	2.79	50.00	89.23	4.87
25-30	10.5-5.5	Same	41.42	0.24	1.27	2.67	49.19	87.84	5.67
		DL-13							
0-5	29.5-24.5	Sand							
5-10	24.5-19.5	Same							
10-15	19.5-14.5	Same	3.63	0.16	0.19	0.39	3.25	5.80	92.63
15-20	14.5-9.5	Same	4.91	0.65	0.20	0.42	0.67	1.20	93.63
		DL-14							
0-5	41-36	Sand							
5-10	36-31	Same							
10-15	31-26	Same							

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-14 (Continued)							
15-20	20-21	Same							
20-25	21-16	Calcareous sand	11.82	0.66	2.30	4.82	9.86	17.82	84.64
		DL-15							
0-4	23-19	Sand							
4-5	19-18	Very sandy Magnesium lime	13.00	1.42	4.93	10.30	8.57	15.29	70.70
5-10	18-13	Same	27.08	0.18	10.96	22.90	18.84	33.62	41.36
10-15	13-8	Dolomite Slightly sandy	43.79	0.50	17.46	36.50	30.15	53.80	6.99
15-20	8-3	Same	45.47	0.28	18.42	38.50	31.88	56.90	2.72
20-25	3-2	Same	42.97	0.94	16.80	35.05	31.17	55.63	5.74
25-30	-2-7	Same	43.32	0.46	16.97	35.47	31.47	56.67	5.95
30-35	-7-12	Same	45.29	0.32	16.94	35.40	34.19	61.10	2.30
35-40	-12-17	Same	44.59	0.35	15.41	32.22	35.46	63.20	2.75
40-45	-17-22	Magnesium limestone	44.19	0.48	13.34	27.90	37.27	66.58	2.92
45-50	-22-27	Same	44.93	0.38	10.97	22.93	40.62	72.60	2.81

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-16							
0-2½	13-10½	Sand							
2½-5	10½-8	Sandy dolomite	40.3	0.62	15.00	31.4	30.50	54.4	12.70
5-10	8-3	Sandy Magnesium limestone	40.9	1.40	14.09	29.5	31.84	56.8	10.85
10-15	3-2	Same	34.9	0.46	13.42	28.1	26.00	46.4	24.59
15-20	-2-7	Same	41.6	0.40	11.41	23.9	39.00	66.6	7.53
20-25	-7-12	Low magnesium lime	42.6	0.34	6.75	14.0	44.82	80.0	4.19
25-30	-12-17	High magnesium lime	42.9	0.34	14.07	29.4	35.48	63.3	6.37
30-35	-17-22	Sandy magnesium lime	31.3	0.46	10.34	21.6	25.77	46.0	31.38
35-40	-22-27	Medium dolomite	43.7	0.34	15.92	33.3	33.97	60.6	5.34
40-45	-27-32	Same	44.7	0.30	15.85	33.1	35.30	63.0	3.13
45-50	-32-37	Same	44.2	0.34	15.06	31.5	36.09	64.4	3.29
		DL-17							
0-2½	7-4½	Sand							
2½-5	4½-2	Sandy medium dolomite	43.1	0.56	16.01	33.5	32.51	58.0	6.91

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
				DL-17 (Continued)					
5-10	2- -3	Same	42.7	0.58	16.25	34.0	32.29	57.6	7.06
10-15	-3- -8	Medium dolomite	45.1	0.46	15.59	32.6	35.88	64.0	2.20
15-20	-8- -13	Same	44.4	0.54	14.81	30.9	36.26	64.7	2.99
20-25	-13- -18	Low magnesium lime	43.1	0.66	8.42	17.6	43.60	77.8	2.85
25-30	-18- -23	Same	43.4	0.32	6.28	13.1	46.52	83.0	2.53
30-35	-23- -28	Same	43.6	0.24	8.10	17.0	44.50	79.4	2.46
35-40	-28- -33	Same	43.8	0.22	5.51	11.6	48.20	86.0	1.62
40-45	-33- -38	Same	44.1	0.26	7.50	15.7	46.00	82.1	1.36
45-50	-38- -43	Same	43.8	0.90	6.95	14.5	46.51	83.0	1.29
				DL-18					
0-2	12-10	Sand							
2-5	10-7	Medium grade dolomite	46.7	0.26	17.13	35.8	34.20	61.2	1.41
5-10	7-2	High grade dolomite	46.0	0.32	18.06	37.8	33.29	59.4	1.44
10-15	2- -3	Same	46.1	0.34	17.41	36.4	34.98	62.4	0.84

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
DL-18 (Continued)									
15-20	-3- -8	Same	46.3	0.26	17.90	37.4	34.74	62.0	0.60
20-25	-8- -13	Medium grade dolomite	46.1	0.22	14.84	31.0	38.00	67.7	0.89
25-30	-13- -18	Same	46.3	0.26	17.29	35.9	35.65	63.6	0.50
30-35	-18- -23	High grade dolomite	45.7	0.56	17.51	36.6	33.19	59.2	2.08
35-40	-23- -28	Same	45.4	0.46	18.39	38.5	32.95	58.8	1.67
DL-19									
0-1½	14.5-13	Sand							
1½-5	13-9½	Very sandy limestone							
5-10	9½-4½	Same	23.1	1.18	0.84	1.8	27.61	49.2	44.10
10-15	4½-½	Same	28.4	1.26	1.54	3.2	33.58	59.8	28.22
15-20	-½- -5½	Same	22.3	0.56	1.03	2.2	27.22	48.5	46.30
20-25	-5½- -10½	Same	27.6	0.40	1.03	2.2	47.15	84.0	13.08
DL-20									
0-1	18-17	Sand							

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-20 (Continued)							
1-5	17-13	Sandy soft limestone	29.6	0.82	3.32	6.9	32.60	58.1	32.18
5-10	13-8	Sandy magnesium lime	41.6	0.62	11.26	23.5	37.00	66.0	8.52
10-15	8-3	Sandy magnesium dolomite	38.7	0.83	14.67	30.7	28.92	51.6	16.20
15-20	3-2	Sandy magnesium lime	30.4	0.39	12.15	25.4	21.75	38.8	33.04
20-25	-2-7	Same	32.1	0.36	12.82	26.8	23.21	41.4	30.71
25-30	-7-12	Very sandy Magnesium lime	21.2	0.34	8.54	17.9	15.30	27.3	54.25
30-35	-12-17	Same	26.1	0.36	5.74	12.0	25.29	45.1	41.53
35-40	-17-22	Very sandy limestone	27.0	0.38	2.28	4.8	29.27	52.2	38.77
40-45	-22-27	Very sandy Magnesium lime	31.3	0.31	4.91	10.3	33.17	59.1	29.58
45-50	-27-32	Same	33.7	0.36	5.28	11.1	35.82	63.9	24.06
		DL-21							
0-5	16.5-11.5	Sand							
5-8	11.5-8.5	Same							
8-10	8.5-6.5	Sandy magnesium lime	38.2	3.11	7.23	15.1	38.01	67.8	12.34
10-15	6.5-1.5	High magnesium lime	45.2	0.51	13.51	28.3	38.62	68.9	0.54

LEVY COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DL-21 (Continued)							
15-25	1.5-8.5	Mud (cavity)	38.3	1.48	4.68	9.8	42.62	76.4	9.20
25-30	-8.5-13.5	Sandy magnesium lime	26.3	1.39	7.24	15.1	24.79	44.2	35.06
30-35	-13.5-18.5	Very sandy limestone	22.9	1.62	4.20	8.8	23.21	41.4	45.39
35-40	-18.5-23.5	Same	24.5	1.92	7.22	15.1	21.87	39.0	39.22
		Note: Samples below 25' contaminated account cavity.							
		DL-22							
0-3	20-17								
3-5	17-15								
5-8	15-12	Very sandy limestone	28.29	0.60	0.80	1.67	41.20	73.60	26.02
8-10	12-10	Sandy limestone	32.79	0.36	0.82	1.73	47.60	85.00	16.08
10-15	10-5	Same	39.38	0.24	0.65	1.36	48.38	86.40	9.87
15-20	5-0	Soft, high calcium limestone	43.56	0.20	0.49	1.03	54.78	97.80	0.40

LEVY COUNTY — LOGS AND CHEMICAL ANALYSES OF SURFACE SAMPLES

Location	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
NW¼ Sec. 19, T16S, R16E	46.6	0.22	17.90	37.4	35.05	62.6	0.26
SW¼ Sec. 21, T16S, R16E	46.2	0.96	18.74	39.2	32.95	58.8	0.67
NW¼ Sec. 27, T16S, R16E	46.7	0.18	19.24	40.2	33.30	59.6	0.16

outcrops reveal siliceous limestone. This condition continues westerly along Highway 16A, through Crackertown and Yankeetown, where shallow rock pits indicate high calcium limestone.

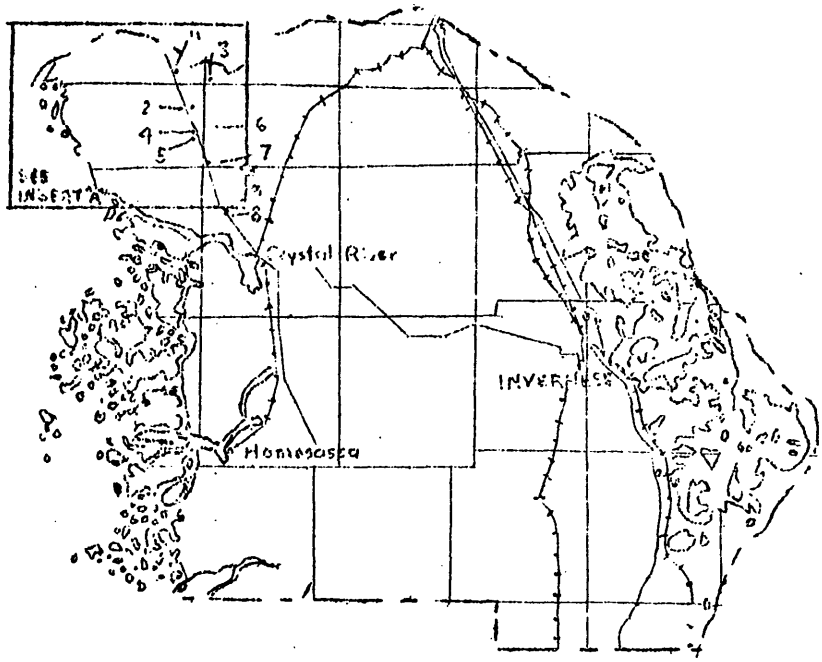
Lack of good roads prevented drilling north of Yankeetown and Crackertown. There are several outcrops of high grade dolomitic boulders showing, however, which are quite promising. Such outcrops were noted in Sections 19, 21 and 27, T16S, R16E.

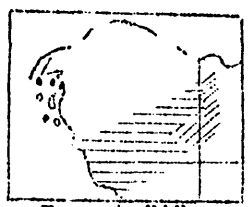
Summarizing the results of the drilling program and investigation of surface deposits in Levy County, it is evident that the entire area bounded by the Waccasassa River, State Highway 15, State Highway 16 A and the Gulf of Mexico merits investigation. By no means is it to be inferred that the rock of the entire area above described is dolomitic, but there are at least large deposits therein. A systematic plan of intensive prospecting would be necessary to prove the thickness and extent of these deposits.

Citrus County

Dolomitic deposits in Citrus County are limited in extent. The Ocala limestone underlies the northern part of this county but in the southern part of the county the Ocala is covered by the Suwannee limestone. Dolomitic limestone has been mined at Red Level for about six years and it is the opinion of the writer that the only dolomitic limestone of potential commercial value in the county occurs in this locality.

The first test hole drilled in the county, Hole DC-1 was put down in Sec. 14, T17S, R16E, on Highway 15 about 1.5 miles southeast of the Withlacoochee River bridge at Inglis. This hole showed 7 feet of sand and 8 feet of very siliceous limestone. The hole was abandoned at a depth of 15 feet





Insert "A"

LEGEND

Areas of potential commercial value.

Areas of doubtful commercial value.

10 0 10 Miles

Dolomitic stations are represented by numerals.

Map of Citrus County showing dolomitic areas and locations of test wells.

evidently being north of the dolomitic area.

Hole DC-2 was drilled in Sec. 24, T19S, R16E, 1.2 miles north of Red Level on State Highway 15. This hole went through 5 feet of sand and 25 feet of very siliceous limestone. The depth of the hole is 30 feet and the siliceous limestone indicates that the dolomitic deposit does not extend far north of Red Level.

In order to determine the nature and extent of the deposit northeast of Red Level, Hole DC-3 was drilled in Sec. 18, T17S, R17E, along the old road to the dam of the Florida Power Corporation on the Withlacoochee River. Five feet of a high grade dolomitic limestone was penetrated after passing through 15 feet of sand overburden the magnesium carbonate content being 37 per cent. Below 20 feet the sediment contained much less magnesium carbonate so the hole was stopped at 25 feet in a very siliceous limestone. Evidently this hole is near the limit of the dolomitic deposit in a direction northeast of Red Level.

Hole DC-4 was drilled in W½ SE¼ Sec. 25, T17S, R16E, about 100 feet west of the pits of the Golden Dolomite Company at Red Level. Seven feet of a low grade siliceous dolomitic limestone was found after going through 3 feet of sand. Below 10 feet and to the completed depth at 50 feet the magnesium carbonate content increased, though the material continued to be very siliceous. This hole was either badly contaminated with cavings or the deposit is very irregular in this area, for a high grade magnesium limestone is being mined at the company pits. High calcium limestone was exposed at the surface about 300 feet north of this hole.

Hole DC-5 was put down in E½ SE¼ Sec. 25, T17S, R16E, on the property of the Gulf Dolomite Company immediately adjoining the plant, and 125 feet

south of the pit of the Golden Dolomite Company. This hole may have been contaminated as the analyses show only low grade magnesium limestone whereas the Company is producing a high grade material.

Hole DC-6 was drilled in Sec. 30, T17S, R17E, on the Twonsend farm on the south side of State Highway 16, at a point $1\frac{1}{4}$ miles east of Red Level. The hole penetrated 5 feet of sandy overburden, 5 feet of siliceous limestone, 10 feet of rather siliceous dolomitic limestone averaging 21 per cent magnesium carbonate. The total depth of the hole is 20 feet.

In order to check the area between Red Level and Crystal River, Hole DC-7 was drilled in Sec. 31, T17S, R17E, on State Highway 15, $1\frac{1}{2}$ miles south of Red Level. This hole went through 5 feet of sand, then into a low grade limestone high in silica. This continued with little change to 30 feet, the bottom of the hole.

Hole DC-8 was put down in Sec. 8, T18S, R17E, on State Highway 15, at a point $1\frac{1}{2}$ miles northwest of Crystal River. Boulders of fairly high calcium limestone were showing on the surface at this place. This hole was drilled 30 feet through limestone, the lower portion being quite siliceous.

The results of the drilling above described, limits the dolomitic limestone area to a narrow zone around Red Level, perhaps about one mile wide north and south. A low grade material probably runs northeasterly to the Withlacoochee River, near the power dam. Because of the deep overburden there, it would be expensive to mine. It is quite possible that the dolomitic limestone runs southwesterly from Red Level toward the Gulf of Mexico. No drilling was done, as there were no roads making it accessible.

CITRUS COUNTY—LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
DC-1									
0-7	18.5-11.5	Sand							
7-10	11.5-8.5	Sandy, soft limestone							
10-15	8.5-3.5	Same	21.85	1.01	0.35	0.73	26.71	47.69	49.14
DC-2									
0-5	17-12	Calcareous sand	10.92	1.11	0.39	0.82	12.00	21.43	74.33
5-10	12-7	Very sandy limestone	23.76	0.55	0.51	1.06	28.73	51.28	45.23
10-15	7-2	Sandy limestone	36.62	0.23	0.42	0.88	45.82	81.90	15.89
15-30	2-13	Mud (cavity)	11.08	3.12	1.19	2.48	10.66	19.02	72.46
DC-3									
0-5	28-23	Sand							
5-10	23-18	Same							
10-15	18-13	Same							
15-20	13-8	Sandy dolomite	44.0	0.56	17.76	37.1	31.30	36.8	4.97

CITRUS COUNTY

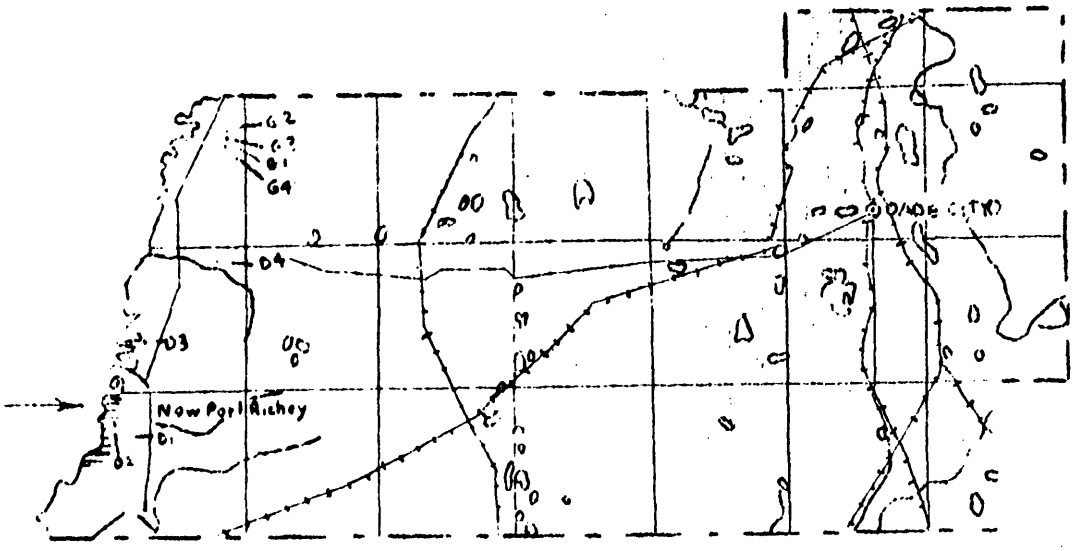
Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DC-3 (Continued)							
20-25	8-3	Very sandy magnesium lime	14.6	0.84	5.49	11.5	9.58	17.1	68.663
25-30	3- -2	Sand and lime							
30-35	-2- -7	Same							
		DC-4							
0-3	11.5- -8.5	Sand							
3-5	8.5- 6.5	Very sandy magnesium lime	20.02	0.75	7.72	16.12	13.90	24.80	56.54
5-10	6.5- 1.5	Same	19.44	0.85	7.73	16.15	13.57	24.20	57.52
10-15	1.5- -3.5	Same	25.94	0.63	10.49	21.73	18.07	32.24	44.10
15-20	-3.5- -8.5	Same	27.43	0.52	11.17	23.35	19.25	34.34	40.96
20-25	-8.5- -13.5	Same	33.40	0.38	13.55	28.31	23.49	41.90	28.41
25-30	-13.5- -18.5	Same	24.03	0.45	9.92	20.91	17.03	30.36	48.02
30-35	-18.5- -23.5	Same	20.24	0.34	9.71	20.39	14.42	25.72	55.46
35-40	-23.5- -28.5	Same	34.58	0.32	14.10	29.46	24.48	43.64	25.86
40-45	-28.5- -33.5	Same	31.63	0.26	12.81	26.77	22.42	40.00	32.28
45-50	-33.5 -38.5	Same	35.79	0.29	14.33	29.96	25.06	44.70	24.15

CITRUS COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DC-5							
0-5	12-7	Sand							
5-10	7-2	Sand and clay							
10-15	2- -3	Same							
15-20	-3- -8	Sand, clay and lime							
		DC-6							
0-5	17.5- 12.5	Sand							
5-10	12.5- 7.5	Very sandy limestone							
10-15	7.5- 2.5	Sandy magnesium lime	41.32	0.60	10.04	20.99	38.90	69.40	8.85
15-20	2.5- -2.5	Same	43.79	0.53	10.04	20.99	42.04	75.00	3.32
		DC-7							
0-5	9-4	Sand							
5-10	4- -1	Very sandy limestone	17.13	1.58	0.62	1.32	20.55	36.66	58.95
10-15	-1- -6	Same	21.05	0.64	0.38	0.79	25.96	46.32	51.44
15-20	-6- -11	Sandy limestone	37.94	0.26	0.52	1.09	46.96	83.80	14.00

CITRUS COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
			DC-7 (Continued)						
20-25	-11- -16	Same	41.75	0.24	0.74	1.54	52.00	92.78	4.92
25-30	-16- -21	Very sandy limestone	23.27	0.96	3.07	6.42	24.63	43.96	47.42
			DC-8						
0-5	6-1	Soft, gray limestone	42.85	0.17	0.83	1.73	53.55	95.56	2.48
5-10	1- -4	Sandy limestone	35.42	0.30	0.54	1.12	44.21	78.88	19.29
10-15	-4- -9	Soft, gray limestone	43.74	0.11	0.78	1.64	54.84	97.84	0.34
15-20	-9- -14	Sandy limestone	34.19	0.18	0.71	1.48	42.81	76.40	22.03
20-25	-14- -19	Same	36.29	0.20	0.65	1.36	45.50	21.20	17.28
25-30	-19- -24	Very sandy limestone	23.27	0.96	3.07	6.42	24.63	43.96	47.42



LEGEND

Area of doubtful commercial value.

Dolomitic stations are represented by the letter "D" followed by a numeral.

Gravel stations are represented by the letter "G" followed by a numeral.

10 0 10 Miles

Map of Pasco County showing dolomitic area and locations of test wells.

Pasco County

Most of Pasco County is underlaid with Tampa limestone. The only part of the county thought to have possibilities of dolomitic limestone was around New Port Richey where its occurrence had been reported.

As a starting point for the investigation in Pasco County, the rock pit operated by L. F. Fernald, Tarpon Springs, about 1½ miles southwest of New Port Richey, in the SE¼ Sec. 7, T26S, R16E, was selected. This pit showed hard gray limestone boulders near the surface, overlying a mottled gray and brown limestone. Hole DP-1 was drilled about 200 feet south of the pit, and showed 10 feet of sand overburden, then hard gray limestone high in silica content. This material became somewhat softer and less siliceous at 20 feet. From that point to a depth of 35 feet, the quality of the limestone improved, reaching 95 per cent calcium carbonate. Below that depth, there was little change to the bottom of the hole at 50 feet.

For the purpose of testing the area between the Fernald pit and the Gulf of Mexico, Hole DP-2 was put down in Sec. 7, T26S, R16E, along the edge of the marsh in NW¼ Sec. 7, T26S, R16E. The hole went through 6 feet of sand and 24 feet of hard siliceous dolomitic limestone, the magnesium carbonate content averaging 23 per cent. Below 10 feet, the magnesium carbonate decreased rapidly to 30 feet, the bottom of the hole. The results from this hole together with surface samples of so-called travertine from the properties of R. Werner and H. B. DeBoer, in Sec. 6, T26S, R16E, show a narrow dolomitic limestone area along the marsh. This hard material takes a good polish and has been tested for building stone with good results. As most of this rock lies below water level, pumping would be a problem. The presence of joints and fissures would make the manufacture of large blocks difficult.

PASCO COUNTY — LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DP-1							
0-5	7.5-2.5	Sand							
5-10	2.5-2.5	Sand							
10-15	-2.5-7.5	Hard, sandy limestone	30.3	0.56	1.00	2.1	34.70	62.0	27.93
15-20	-7.5-12.5	Same	35.4	0.76	0.30	0.64	42.49	75.8	18.73
20-25	-12.5-17.5	Medium hard, sandy limestone	38.1	0.42	0.48	1.0	47.65	85.1	11.28
25-30	-17.5-22.5	Same	39.0	0.34	0.22	0.45	49.01	87.6	9.63
30-35	-22.5-27.5	Same	39.0	0.44	0.75	1.6	48.33	86.3	9.96
35-40	-27.5-32.5	Medium hard limestone	42.1	0.20	0.57	1.2	53.30	95.2	2.93
40-45	-32.5-37.5	Same	42.7	0.20	0.49	1.0	53.63	95.8	2.57
45-50	-37.5-42.5	Same	42.4	0.18	0.54	1.1	53.50	95.6	2.66
		DP-2							
0-6	4.5-1.5	Sand							
6-10	-1.5-5.5	Hard, sandy, magensium	30.7	0.62	11.02	23.0	24.22	43.3	31.07
10-15	-5.5-10.5	Softer, sandy, limestone	32.2	0.54	4.00	8.4	35.82	64.0	24.65
15-20	-10.5-15.5	Same	35.6	0.52	1.93	4.0	42.02	75.0	17.66

PASCO COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DP-2 (Continued)							
20-25	-15.5- -20.5	Same	32.6	1.05	1.52	3.2	37.98	67.8	21.89
25-30	-20.5- -25.5	Same	40.0	0.42	1.36	2.8	48.90	87.3	7.62
		DP-3							
0-5	5.5- -1.5	Sand							
5-10	-1.5- -6.5	Soft, sandy gray lime	39.5	0.66	0.64	1.3	46.41	82.9	12.14
10-14	-6.5- -10.5	Same	40.1	0.50	0.32	0.67	50.03	89.4	6.75
14-15	-10.5 -11.5	Medium hard sandy lime	30.1	0.72	0.97	2.0	35.82	64.0	27.50
15-20	-11.5- -16.5	Same	30.1	0.80	1.17	2.5	36.85	35.8	27.15
20-25	-16.5- -21.5	Same	33.33	0.68	0.87	1.8	39.78	71.0	22.84
		DP-4							
0-5	11.5- 6.5	Sand							
5-10	6.5- 1.5	Same							
10-15	1.5- -3.5	Same							

PASCO COUNTY — LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		GP-1							
0-5	12-7	Sand							
5-10	7-2	Sand and gravel							
10-15	2-(-3)	Same		Not Analyzed					
15-20	-3-(-8)	Same							
20-25	-8-(-13)	Same							
25-30	-13-(-18)	Sandy limestone							
		GP-2							
0-5	8-3	Sand							
5-10	3-(-2)	Same							
10-12	-2-(-4)	Sand and limestone		Not Analyzed					
12-15	-4-(-7)	Sandy limestone							
15-20	-7-(-12)	Same							

PASCO COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		GP-3							
0-5	8.5-3.5	Sand							
5-10	3.5-1.5	Same							
10-12	-1.5-3.5	Sand and limestone	Not Analyzed						
12-30	-3.5-21.5	Mud (cavity)							
		GP-4							
0-5	19-14	Sand							
5-10	14-9	Same	Not Analyzed						
10-15	9-4	Same							

This very siliceous dolomite should be suitable for the manufacture of rock wool.

In order to test the area north of Port Richey, Hole DP-3 was drilled in SW¼ Sec. 20, T25S, R16E, along Salt Spring Bayou about 1 mile west of U. S. Highway 19. This hole showed only negative results as far as dolomitic limestone is concerned. Below 5 feet of sand, a siliceous limestone was encountered, which continued to 25 feet, the bottom of the hole.

Hole DP-4 was put down on the road running north from Fivay about ½ mile from U. S. Highway 19. This hole was stopped as unpromising at 15 feet, after going through sand all the way.

An investigation of outcrops along the Gulf from New Port Richey to Hudson and beyond showed no indication of dolomite. Most of the outcropping rock is limestone and silicified limestone, showing the effects of weathering. The analyses of several surface samples, taken from widely separated localities, confirm opinions stated above.

Manatee County

Dolomitic limestones have been mined by small operators in Manatee County for several years. Most of this material has been crushed and used for aggregate. In some cases the fine material obtained from screening has been sold for agricultural limestone. A plant known as the Florida Travertine Company, Bradenton, was erected 2 miles east of Samoset in about 1922 for the mining and manufacture of building stone. The rock quarried for this purpose was a rather thin bed of hard siliceous dolomitic limestone known locally as travertine, however, it is not true travertine but more properly travertine-like. This plant has long since been abandoned. The building

occupied by the Tampa Gas Company, Tampa, Florida is constructed of this material.

Preliminary investigation of outcrops and rock pits by the writer, indicates that dolomitic rock occurs over much of the western part of Manatee County. It was noted that most of these deposits occur in low lying hammocks and that they rarely extend to higher ground.

Drilling in this county was begun at Oneco. Hole DM-1 was put down in SW$\frac{1}{4}$ Sec. 7, T35S, R18E, a short distance southeast of a small pit operated by E. F. Staples. This hole is outside the hammock areas. Upon penetrating 19 feet of sand a low grade dolomitic limestone was found. This limestone quickly improved in quality and between 20 and 30 feet, the magnesium carbonate content was 36 per cent, although it was high in silica. Below 30 feet, the quality of dolomitic material decreased rapidly, due to increase in silica, so the hole was stopped at 40 feet.

Hole DM-11 was drilled in SW$\frac{1}{4}$ Sec. 8, T35S, R18E, 1$\frac{1}{4}$ miles east of Oneco on an old county road $\frac{1}{4}$ mile north of State Highway 18A, but proved disappointing. A low grade extremely siliceous dolomite was entered after passing through 10 feet of sand. This continued with little change to 30 feet where the hole was abandoned.

In order to investigate the section northeast of Oneco in the direction of Elwood Park, Hole DM-2 was drilled in the SW$\frac{1}{4}$ Sec. 5, T35S, R18E, on an old county road. This hole went through 9 feet of sandy overburden, then into a medium grade dolomitic limestone which continued to 40 feet, the bottom of the hole. The average magnesium carbonate content for the limestone was 32 per cent, but the samples were high in silica.

Hole DM-3 was drilled in NE$\frac{1}{4}$ Sec. 5, T35S, R18E, at the small rock

pit of N. J. Trudell, 1½ miles east of Samoset. This location is about ¼ mile northwest of the old plant of the Florida Travertine Company. A siliceous low grade dolomitic limestone was penetrated to a depth of 5 feet and a medium grade dolomitic limestone to 40 feet, the bottom of the hole. The average magnesium carbonate content was 35 per cent, however, the samples ran high in silica.

Hole DM-4 was put down in SW¼ Sec. 32, T34S, R16E, at a small rock pit operated by E. F. Staples. This hole showed 10 feet of sand, and then entered a medium grade of dolomitic limestone which averaged 34 per cent magnesium carbonate. This formation continued to a depth of 40 feet at which point the hole was abandoned, because this depth was considered to be below the limits for commercial mining. Surface investigations and auger borings showed the dolomitic deposit to extend northeasterly to the Braden River.

Hole DM-12 was drilled in NE¼ Sec. 6, T35S, R18E, on a county road 1 mile east of Samoset. The first 6 feet was sand, below which 4 feet of low grade dolomite was found. Fairly good rock was entered at 10 feet which continued to 25 feet, the bottom of the hole, and probably extends deeper. The average magnesium carbonate content for the 15 feet of limestone was 34 per cent.

As a result of the drilling of holes DM-2, DM-3, DM-4 and DM-12, it is estimated that there are 40,000,000 tons of siliceous dolomitic limestone averaging 34 per cent magnesium carbonate available for mining in the vicinity of these test holes.

Hole DM-5 was drilled in SW¼ Sec. 24, T35S, R17E, at the southeast corner of the Sarasota Bay Country Club, near the head of Bowles Creek. A

very siliceous low grade dolomitic limestone was entered after drilling through 5 feet of sand. This limestone continued to a depth of 35 feet, with an average magnesium carbonate content of 21 per cent. A higher grade of rock was encountered between 35 and 40 feet which showed a magnesium carbonate content of 36 per cent.

Hole DM-10 was put down in SW¼ Sec. 19, T35S, R18E, along the Old Bradenton Road, about 1½ miles north of Tallevast. The purpose of this hole was to determine whether the deposit at Oneco and the one on the south side of the Manatee-Sarasota County line were continuous. The hole went through 20 feet of sand overburden, and then entered a very siliceous low grade limestone, however, which would indicate that those deposits are not continuous. This conclusion is further substantiated by surface investigation and hand auger borings through this section.

In order to investigate the area on the east side of the Braden River, Hole DM-13 was drilled in NW¼ Sec. 28, T34S, R18E, on State Highway 161, about 1 mile east of the river. This hole went through 10 feet of sand and then entered a sandy shell marl which continued to a depth of 20 feet. The hole was abandoned at this point as unpromising.

Hole DM-14 was put down in Sec. 27, T34S, R18E, about 3 miles east of the Braden River on State Highway 161. Results obtained were similar to those found in Hole DM-13. A very sandy shell marl was encountered after going through 10 feet of sand. There was little change in formation to the bottom of the hole at 30 feet.

The results from Holes DM-13 and DM-14 together with an examination of outcrops indicate that there is little or no dolomitic limestone on the

east side of Bradon River.

Work was then begun on the north side of the Manatee River. Several small pits were examined which showed dolomitic limestone, as did also some small canals and roadside ditches.

Drilling was begun a short distance east of the Seaboard Air Line Railway bridge, between Palmetto and Ellenton, and about 100 feet north of the river at a small pit on the Asa Pillsbury tract, operated by Sam Johnson, in the NW¼ Sec. 24, T34S, R17E, where Hole DM-6 was put down. Sand overburden in this hole was 4 feet thick. A siliceous dolomitic rock was entered at that depth. This quickly changed to a medium grade dolomitic limestone which averaged 34 per cent magnesium carbonate, although it was quite high in silica. This formation continued with little change to 40 feet, the bottom of the hole, except that it became softer as drilling progressed.

Based on the results from this test boring and on surface investigations in surrounding territory, it is believed that a fairly good dolomitic limestone area lies east and north of this hole along the Manatee River. Dolomitic limestone outcrops at intervals along the north bank of the river upstream from Hole DM-6 for about 4 miles, as far as Rocky Bluff, however, much of this section lies in settled country occupied by citrus groves and truck gardens. Also, the dolomitic rock is thin toward the eastern limits. A block running easterly from Hole DM-6, perhaps a mile long and extending northerly about ¼ mile should be available for mining operations. As this section lies in low land along the Manatee River, it would be necessary to limit mining operations to the upper part of the dolomitic bed.

Continuing investigations north of the Manatee River, Hole DM-7 was

drilled in SE¼ Sec. 12, T34S, R17E, on the property of Ed F. Hayes, at a small pit operated by E. F. Staples. This hole entered a low grade dolomitic limestone at 1½ feet, which continued with little change to 10 feet. The average magnesium carbonate content was 24 per cent, and the silica content was very high. The magnesium carbonate content was considerably less, below 10 feet decreasing to the bottom of the hole, a depth of 25 feet.

Hole DM-8 was put down in SE¼ Sec. 7, T34S, R18E, on the Satterwhite property, near an abandoned pit where the rock was at one time quarried for building stone. A medium grade of dolomitic limestone was encountered after going through 5 feet of sand, which showed an average magnesium carbonate content of 30 per cent to a depth of 15 feet. Below this depth, the grade of material dropped slightly and was softer. The hole was discontinued at 25 feet. The rock is very siliceous as it is in other holes in Manatee County.

For the purpose of determining the northern limits of the dolomitic area, Hole DM-9 was drilled in SW¼ Sec. 6, T34S, R18E, on a county road located on the south side of the Ellenton Airport. This hole was located near the east edge of the hammock section, because the ground rises sharply in an easterly direction to an elevation of 36 feet, which is high for that part of Manatee County. This hole showed 5 feet of sand, 7 feet of very siliceous limestone, and 8 feet of very low grade dolomitic limestone which average 18 per cent magnesium carbonate. The hole was abandoned as unpromising at 20 feet. The low grade rock in this hole indicated that this location was beyond the area of potential commercial dolomitic limestone and no drilling was undertaken farther north.

Since one of the chief objects of this survey was to define approximate limits of the dolomite deposit, no drilling was undertaken inside the

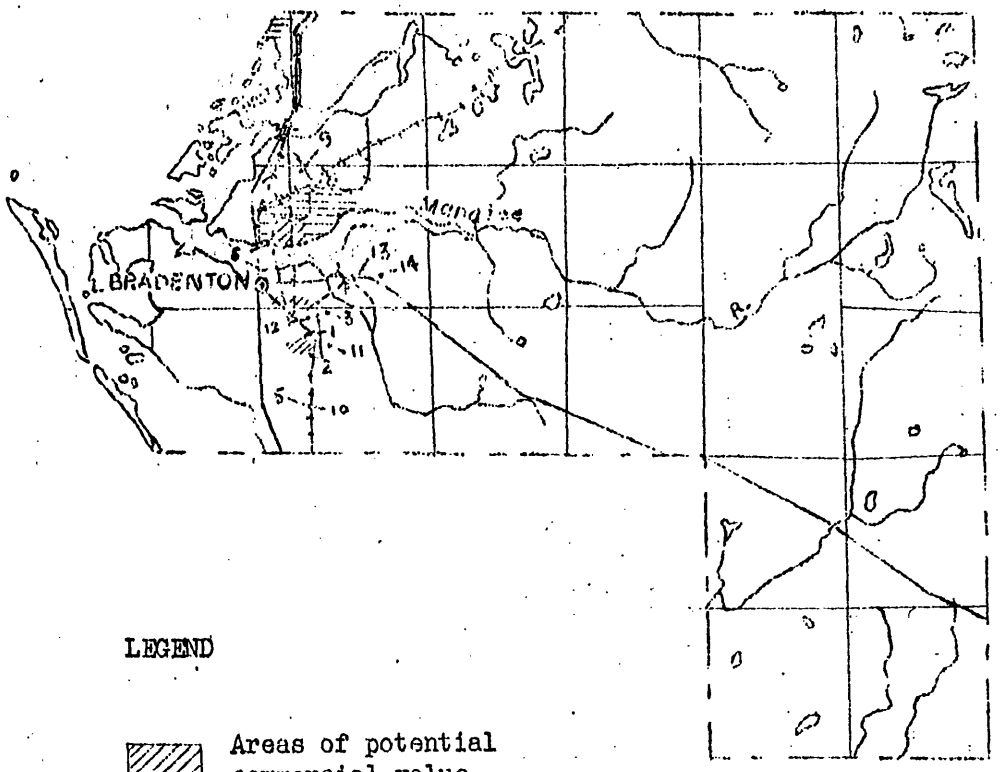
estimated area. Much surface investigation was made, however, including the collection of samples from exposures and considerable hand auger work. A sample of the hard "travertine" from the pit of the Producers Rock and Lime Company showed a magnesium carbonate content of 38 per cent. Other samples collected were similar in quality.

It is quite possible that there are other small, isolated dolomitic areas in Manatee County, but considerable preliminary investigation indicates that the drilling above described, covers the more promising areas. A large acreage of land along Sarasota Bay, south of State Highway 18A, and west of U. S. Highway 41 had been reported to show dolomite. No such material, however, was found. Shell limestone outcrops along U. S. Highway 41, in Sec. 11, T35S, R17E, and in many localities to the west. A hard siliceous limestone outcrops along State Highway 18A at various points, also in many places south of this road.

Some outcrops had been reported along Frog Creek where it crosses State Highway 310 farther downstream, but no such outcrops were found, in fact, little rock of any kind shows. This section is comparatively high sandy land.

At the Piney Point landing of the Bee Line Ferry a pile of rock thrown out of the channel during dredging operations showed dolomitic material. A sample of this rock when analyzed showed a magnesium carbonate content of 34 per cent. Doubtless a narrow deposit extends along the shore line at that point, but it probably does not extend far inland. This area was not prospected.

A dolomitic limestone deposit in the extreme northern part of Sarasota County east of State Highway 356, is thought not to cross into Manatee County as shell limestone is found along the county line road, with little evidence of dolomitic limestone.



Map of Manatee County showing dolomitic areas and locations of test wells.

MANATEE COUNTY -- LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-1							
0-5	32.5-27.5	Sand							
5-10	27.5-22.5	Same							
10-15	22.5-17.5	Same							
15-19	17.5-13.5	Same							
19-20	13.5-12.5	Very sandy magnesium lime	25.1	0.51	11.48	24.0	16.87	30.1	44.22
20-25	12.5-7.5	Sandy dolomite	38.3	0.65	17.45	36.5	25.98	46.3	15.43
25-30	7.5-2.5	Same	38.6	0.66	17.39	36.4	26.20	46.8	14.79
30-35	2.5-[illegible]	Very sandy magnesium lime	19.0	0.58	8.64	17.7	13.76	24.6	55.93
35-40	[illegible]-7.5	Calcareous sand	4.7	0.34	2.02	4.2	3.16	5.6	88.26
		DM-2							
0-5	12-7	Sand							
5-9	7-3	Same							
9-10	3-2	Sandy dolomite	33.2	0.69	14.86	31.1	24.03	42.9	24.49
10-15	2-[illegible]3	Same	34.0	0.63	14.18	29.7	23.80	50.3	17.91
15-20	[illegible]-8	Same	33.5	0.50	14.69	30.7	26.75	47.7	20.42

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-2 (Continued)							
20-25	-8-13	Same	33.2	0.59	15.07	31.5	25.97	46.4	21.11
25-30	-13-18	Sandy dolomite	32.0	0.53	14.59	30.5	25.63	45.8	21.98
30-35	-18-23	Same	34.9	0.45	17.55	36.7	26.48	47.3	17.83
35-40	-23-28	Same	34.7	0.51	15.88	33.2	26.75	47.7	17.86
		DM-3							
0-5	2-7	Very sandy Magnesium lime	21.8	2.60	6.23	13.0	23.40	41.8	36.40
5-10	7-2	Sandy medium grade dolomite	36.4	0.64	15.87	33.2	27.48	49.0	16.27
10-15	2-3	Sandy high grade dolomite	39.0	0.47	17.68	37.0	28.30	50.3	12.14
15-20	-3-8	Sandy medium grade dolomite	34.5	0.56	15.76	33.0	26.42	47.2	18.74
20-25	-8-13	Same	34.4	0.56	15.81	33.1	26.09	46.6	19.22
25-30	-13-18	Sandy, high grade dolomite	37.4	0.49	17.21	36.0	27.31	48.7	14.54
30-35	-18-23	Same	38.9	0.41	17.95	37.5	27.75	49.5	12.10
35-40	-23-28	Sandy medium grade dolomite	35.3	0.41	16.25	34.0	27.75	49.5	15.66

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-4							
0-5	13-8	Sand							
5-10	8-3	Same							
10-15	3-(-2)	Sandy medium grade dolomite	34.3	0.61	15.24	31.9	28.08	50.1	16.42
15-20	-2-(-7)	Same	33.0	0.67	14.55	30.4	29.13	52.0	16.60
20-25	-7-(-12)	Same	37.0	0.49	16.66	34.8	29.41	52.5	12.27
25-30	-12-(-17)	Same	35.7	0.51	16.40	34.3	27.80	49.6	15.10
30-35	-17-(-22)	Same	38.9	0.43	16.43	34.3	29.46	42.6	9.03
35-40	-22-(-27)	Sandy high grade dolomite	40.0	0.42	18.45	38.6	29.33	42.4	8.14
		DM-5							
0-5	10-5	Sand							
5-10	5-0	Very sandy magnesium lime	15.1	0.66	7.28	15.1	9.99	17.8	64.97
10-15	0-(-5)	Same	25.0	1.48	11.76	24.6	16.37	29.2	39.38
15-20	-5-(-10)	Very sandy dolomite	30.8	1.44	14.57	30.5	25.11	44.8	20.24
20-25	-10-(-15)	Very sandy magnesium lime	30.5	1.34	14.19	29.6	23.21	41.4	24.52
25-30	-15-(-20)	Same	17.1	1.64	6.44	13.5	7.40	13.2	61.20

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-5 (Continued)							
30-35	-20-25	Same	16.7	1.64	6.76	14.1	7.29	13.0	61.27
35-40	-25-30	Sandy high grade dolomite	38.1	0.83	17.50	36.6	23.65	42.2	14.22
		DM-6							
0-4	5-1	Sand							
4-5	1-0	Very sandy magnesium lime	27.2	0.90	12.15	25.4	17.97	32.1	38.59
5-10	0-5	Very sandy medium grade dolomite	34.5	0.68	15.75	32.9	22.98	41.0	23.35
10-15	-5-10	Same	35.6	0.70	16.18	33.8	25.09	44.8	17.93
15-20	-10-15	Same	34.1	0.58	15.52	32.4	24.30	43.4	21.05
20-25	-15-20	Same	36.0	0.45	16.57	34.6	25.70	45.9	16.58
25-30	-20-25	Sandy high grade dolomite	39.2	0.48	17.41	36.4	28.20	50.3	9.24
30-35	-25-30	Same	38.1	0.64	16.85	35.2	27.02	48.2	12.33
35-40	-30-35	Same	38.2	0.64	17.50	36.6	25.85	46.1	12.56
		DM-7							
0-1½									

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
				DM-7 (Continued)					
1½-5	13.5-12	Sandy magnesium lime	29.6	0.89	11.92	24.9	24.30	43.4	28.85
5-10	12-8.5	Same	27.2	0.76	11.62	24.3	20.87	37.2	35.95
10-15	8.5-3.5	Same	17.1	1.06	8.03	16.8	11.76	21.0	58.63
15-20	3.5-1.5	Same	13.3	1.57	6.29	13.1	6.38	11.4	68.63
20-25	1.5-6.5	Same	13.4	1.58	6.00	12.5	6.66	11.9	68.53
				DM-8					
0-5	19.5-14.5	Sand							
5-10	14.5-9.5	Sandy Magnesium lime	31.8	0.70	13.98	29.2	23.40	41.8	26.61
10-15	9.5-4.5	Very sandy dolomite	31.2	0.90	15.02	31.4	22.52	40.2	25.65
15-20	4.5-0.5	Sandy magnesium lime	26.1	1.30	13.18	27.5	16.65	29.7	38.06
20-25	-0.5-4.5	Same	25.1	1.22	12.69	26.5	16.20	28.9	40.22
				DM-9					
0-5	20.5-15.5	Sand							
5-12	15.5-8.5	Calcareous sand	8.0	0.84	1.42	3.0	10.65	19.0	74.39

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-9 (Continued)							
12-15	8.5-5.5	Very sandy Magnesium lime	19.8	1.20	7.86	16.4	15.42	27.5	50.32
15-20	5.5-0.5	Same	21.8	1.02	9.72	20.3	17.57	31.4	44.66
		DM-10							
0-5	17-12	Sand							
5-10	12-7	Same							
10-15	7-2	Same							
15-20	2-.3	Same							
20-25	.3-.8	Same							
		DM-11							
0-5	29-24	Sand							
5-10	24-19	Same							
10-15	19-14	Calcareous sand	9.6	1.89	3.95	8.3	8.52	15.2	71.16
15-20	14-9	Very sandy magnesium lime	16.1	0.62	6.84	14.3	13.90	24.8	58.68
20-25	9-4	Same	14.8	0.58	6.70	14.2	13.45	24.0	60.88

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-11 (Continued)							
25-30	4-1	Same	15.9	0.54	6.77	14.3	13.56	24.2	58.13
		DM-12							
0-6	15-9	Sand							
6-8	9-7	Sandy magnesium lime	32.4	0.88	13.55	28.3	24.27	43.3	24.57
8-10	7-5	Very sandy magnesium lime	17.9	0.98	7.22	15.1	14.12	25.2	55.28
10-15	5-0	Sandy medium grade dolomite	35.1	0.70	15.17	31.7	26.57	47.4	17.81
15-20	0-5	Same	37.7	0.70	16.74	35.0	25.97	46.3	15.73
20-25	-5-10	Same	37.7	0.74	16.85	35.2	27.38	48.9	13.24
		DM-13							
0-5	9.5-4.5	Sand							
5-10	4.5-0.5	Same							
10-15	-0.5-5.5	Sand and shell marl							
15-20	-5.5-10.5	Same							

MANATEE COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DM-13 (Continued)							
20-25		Marl							
25-30		Same							
		DM-14							
0-5	13-8	Sand							
5-10	8-3	Same							
10-15	3-2	Sand and shell marl							
15-20	-2-7	Same							
20-25	-7-12	marl							
25-30	-12-17	Same							

It is quite probable that a small deposit of dolomitic limestone runs southwesterly from near the head of Bowles's Creek in Sec. 24, T35S, R17E. As all of this area lies either in Whitfield Estates subdivision or in the Sarasota Bay Country Club, no further drilling was attempted there after Hole DM-5 was finished, as very little, if any, land would be available for commercial development.

Summarizing the results of the dolomite investigation in Manatee County, it was found that there is no continuity of the deposits. The largest areas are adjacent to the Manatee River, on both the north and south sides. Much of the town of Manatee is probably underlaid with dolomitic limestone, being a continuation of the deposit near Samoset and Elwood Park. The deposit at Oneco is apparently quite local as it does not extend far in any direction, except possibly northeasterly. There is a possibility that a narrow zone extends northeasterly toward the Samoset-Elwood Park area, but this is doubtful and could only be determined by intensive prospecting.

While the county has some dolomite deposits of quite high magnesium carbonate content, all are quite siliceous in character. This fact would make them undesirable for many purposes, but the high silica content should make these deposits adaptable for the manufacture of rock wool.

Sarasota County

Dolomitic limestone has been mined in Sarasota County for about 5 years by the Florida Dolomite Company, the manufactured product being used for agricultural limestone. This plant is located about 3½ miles northeast of the City of Sarasota in NW¼ Sec. 6, T36S, R18E, and is the only one in the county mining dolomitic limestone.

Hole DS-1 was drilled on the south side of the Florida Dolomite Company pit. The shallow sand overburden near the site of this test hole ran from 2 to 4 feet thick. The hole started in high grade dolomitic limestone, the magnesium carbonate content averaged above 38 per cent. Below 15 feet to a depth of 25 feet there was a slight drop in the magnesium carbonate content, the average was 34 per cent. The quality of magnesium carbonate averaged 28 per cent from 25 to 35 feet, the bottom of the hole, and the amount of silica increased with depth.

Hole DS-2 was put down on the north side of the pit. The overburden in the vicinity of this hole, as on the south side of the pit which averaged from 2 to 4 feet in thickness had been previously stripped. The hole showed a very high grade of dolomitic limestone from the surface to a depth of 20 feet. The magnesium carbonate content for this thickness was more than 39 per cent. Below 20 feet, the quality of rock decreased somewhat, due to an increase in silica and showed an average content of 28 per cent magnesium carbonate. The hole was abandoned at 40 feet. This pit is near the western limit of the dolomitic limestone area, as a deep ditch along the west side of State Highway 356, on the property of the Sarasota-Bradenton Air Base, does not show any exposure.

Hole DS-3 was drilled in SW$\frac{1}{4}$ Sec. 7, T36S, R18E, on East 45th Street of the City of Sarasota, a short distance east of State Highway 356 in a thinly developed section near the northeastern limits of the city. The sand overburden here was 5 feet thick, below which there was 15 feet of very siliceous low grade dolomitic limestone. The hole was discontinued at a depth of 20 feet as unpromising.

Hole DS-8 was drilled in SE$\frac{1}{4}$ in Sec. 7, T36S, R18E, about 500 feet

north of 33rd Street near the school at New Town, a colored subdivision of the City of Sarasota. The hole penetrated 8 feet of sand overburden, 2 feet of low grade dolomitic limestone and 10 feet of medium grade dolomitic limestone which averaged 35 per cent magnesium carbonate. The test hole was completed at a depth of 20 feet.

An examination of exposures along the drainage canal running southwesterly to Sarasota Bay from the northeastern part of the city showed dolomitic material in several places. A surface sample from this canal where it crossess Orange Avenue contained 40 per cent magnesium carbonate. A sample of soft rock exposed at the mouth of Hog Creek on Sarasota Bay, showed a magnesium carbonate content of 36 per cent, however, no drilling was undertaken as very little of this section would be available for mining.

Hole DS-4 was drilled in NW¼ Sec. 5, T36S, R18E, on the DeSoto Road about 300 feet east of the Atlantic Coast Line Railroad. A good grade of dolomitic limestone was encountered after going through five feet of sand. This limestone continued to a depth of 20 feet with an average magonsium carbonate content above 37 per cent. As is the case throughout Sarasota and Manatee Counties the rock is quite siliceous. Below 20 feet the quality of material dropped rapidly and the hole was stopped at 40 feet. The lower 20 feet of this hole averaged 24 per cent magnesium carbonate. It was reported to the writer that about 70 acres of land in the locality of this hole was prospected quite thoroughly a few years ago with good results. Several old test pits were observed and one surface sample collected from one of these showed a magnesium carbonate content of 40.85 per cent.

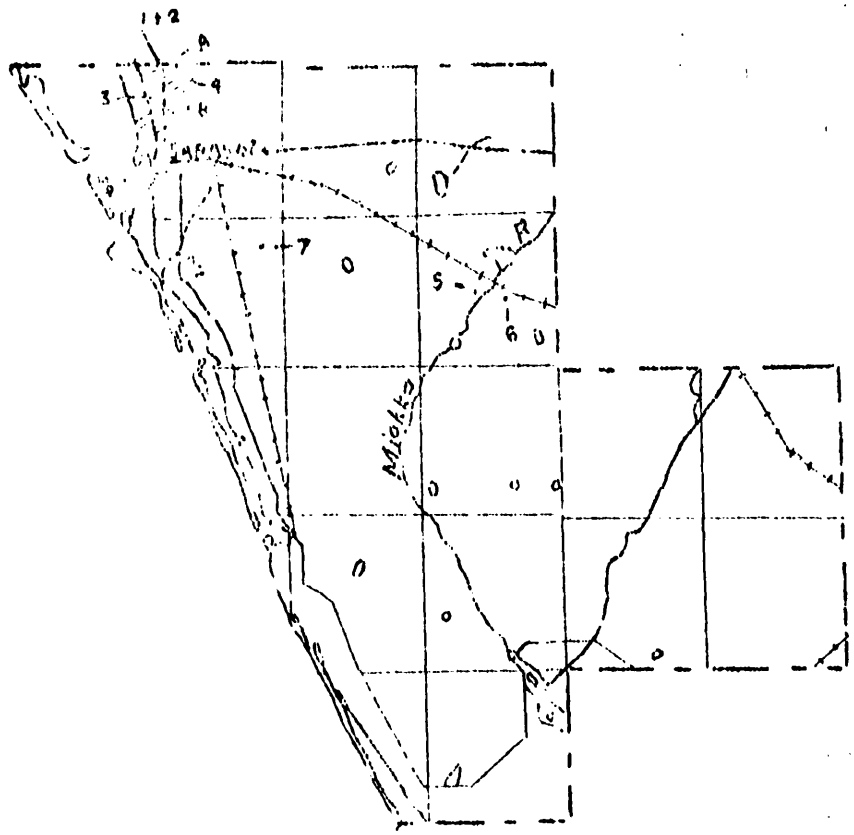
Some preliminary investigations were made south of the City of Sarasota

to determine the possibilities of dolomitic limestone in that direction. A surface sample was collected in Sec. 17, T37S, R18E, at a small abandoned rock pit on the south fork of Philappi Creek which showed a magnesium carbonate content of 33 per cent. A sample taken in Sec. 21, T37S, R18E, at Pinehurst Park Spring on U. S. Highway 41, 8 miles southeast of Sarasota contained 23 per cent magnesium carbonate. These samples indicate the possibilities of dolomitic deposits of some value. As indications were less favorable than in parts described above and much of the land would be unavailable for mining, no drilling was done.

The material analyzed from this area is too high in silica to be of commercial value, except for the manufacture of rock wool. Anyone interested in this might do some intensive prospecting. It is believed that no dolomitic material occurs south of the localities above mentioned, as a hard silicified limestone was observed at Venice.

Summarizing results of the work in Sarasota County, it is the conclusion of the writer that the best available dolomitic deposits are limited to a rather small territory north and east of the City of Sarasota. As mentioned previously, much of the dolomitic area lies within the city, and is therefore unavailable for mining.

Probably the most promising part of this deposit is that extending north from the DeSoto Road almost to the Manatee County line, and from the Atlantic Coast Line Railroad east about $\frac{1}{2}$ mile. This does not include the high grade deposit of the Florida Dolomite Company which lies west of the Atlantic Coast Line Railroad. A larger part of this area, probably not quite as high in magnesium carbonate content, extends from the DeSoto Road south to



LEGEND

Area of potential commercial value.

Dolomitic stations are represented by numerals.

10 0 10 Miles

Map of Sarasota County showing dolomitic area and locations of test wells.

SARASOTA COUNTY — LOGS OF TEST HOLES AND CHEMICAL ANALYSES OF SAMPLES

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DS-1							
0-5	12-7	Sandy high grade dolomite	40.7	0.43	18.16	38.0	29.85	53.2	7.54
5-10	7-2	Sand	41.7	0.61	18.81	39.3	38.52	50.9	8.13
10-15	2-3	Same	40.3	0.65	18.32	38.3	27.74	49.5	10.06
15-20	-3-8	Sandy medium grade dolomite	37.3	0.74	16.74	35.3	27.09	48.3	13.31
20-25	-8-13	Same	34.7	0.81	15.89	33.2	24.30	43.3	21.00
25-30	-13-18	Sandy magnesium lime	27.2	1.62	12.78	26.7	18.20	32.5	35.25
30-35	-18-23	Same	29.1	1.36	14.13	29.5	18.53	33.1	31.70
		DS-2							
0-5	12-7	Sandy high grade dolomite	41.7	0.66	18.42	38.5	29.95	53.3	6.47
5-10	7-2	Same	41.8	0.60	19.44	40.6	28.75	51.3	7.03
10-15	2-3	Same	42.0	0.57	19.63	41.1	28.30	50.5	7.00
15-20	-3-8	Same	36.3	0.97	17.82	37.3	24.20	43.2	17.00
20-25	-8-13	Sandy magnesium lime	31.5	1.48	14.05	29.4	20.20	36.1	27.07
25-30	-13-18	Sandy medium grade dolomite	34.6	1.01	16.38	34.2	24.97	44.6	18.01
30-35	-18-23	Very sandy magnesium lime	21.4	1.92	9.26	19.4	10.54	18.8	51.94

SARASOTA COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DS-2 (Continued)							
35-40	-23- -28	Sandy medium grade dolomite	29.1	1.44	14.56	30.4	17.98	32.1	31.38
		DS-3							
0-5	12-7	Sand							
5-10	7-2	Very sandy magnesium lime	17.3	0.73	5.87	12.3	14.98	26.7	59.20
10-15	2- -3	Same	25.4	0.93	10.30	21.5	20.26	36.1	40.18
15-20	-3- -8	Same	21.2	1.07	7.49	15.7	18.53	33.1	49.28
		DS-4							
0-5	21-16	Sand							
5-10	16-11	Sandy high grade dolomite	37.3	0.77	17.91	37.4	25.09	44.7	16.77
10-15	11-6	Same	40.0	0.73	19.30	40.4	26.31	46.9	11.41
15-20	6-1	Sandy medium grade dolomite	34.0	1.05	16.78	35.0	21.87	39.0	22.89
20-25	1- -4	Sandy magnesium lime	29.4	1.34	14.29	29.9	21.53	38.4	23.40
25-30	-4- -9	Very sandy magnesium lime	16.9	1.06	8.81	18.4	10.93	19.5	57.94
30-35	-9- -14	Same	25.3	0.94	12.57	26.3	16.10	23.5	38.96

SARASOTA COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
			DS-4 (Continued)						
35-40	-14 -19	Same	20.6	0.97	10.52	22.0	12.82	22.8	50.92
			DS-5						
0-5		Sand							
5-10		Sand							
10-15		Same							
15-20		Sandy clay							
20-25		Same							
25-30		Same							
			DS-6						
0-5		Sand							
5-10		Same							
10-15		Sandy clay							
15-20		Same							
20-25		Same							

SARASOTA COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
		DS-7							
0-5	34.5-29.5	Sand							
5-10	29.5-24.5	Same							
10-15	24.5-19.5	Same							
15-20	19.5-14.5	Same							
20-25	14.5-9.5	Sand							
		DS-8							
0-5	20-15	Sand							
5-8	15-12	Same							
8-9	12-11	Very sandy magnesium lime	25.8	0.94	11.20	23.4	17.88	31.9	42.15
9-10	11-10	Sandy medium grade dolomite	33.7	1.10	14.52	30.3	23.87	42.6	21.80
10-15	10-5	Same	37.6	0.90	17.17	35.9	25.23	45.2	15.69
15-20	5-0	Same	37.5	0.86	16.86	35.3	25.33	45.2	15.73

SARASOTA COUNTY

Depth	Elev.	Char. of Material	Loss on Ignition	Fe_2O_3	MgO	$MgCO_3$	CaO	$CaCO_3$	SiO_2
				DS-9					
0-5	17-12	Sand							
5-7	12-10	Same							
7-10	10-7	Very sandy magnesium lime	19.5	0.74	7.49	15.7	16.25	29.0	52.93
10-15	7-2	Same	18.8	0.72	7.23	15.1	15.58	27.8	54.94
15-20	2--3	Very sandy limestone	9.6	1.50	3.41	7.1	7.96	14.2	71.38

the Sarasota city limits, and from the Seaboard Air Line Railway east about 1½ miles.

As shown in the results mentioned previously, all of the dolomitic deposits run high in silica. This fact should make it attractive for the manufacture of rock wool, for which a highly siliceous material is desirable.

Miscellaneous Prospecting

Sarasota County

While an investigation of dolomite deposits was the purpose of this survey, a small amount of work was done in Myakka River State Park. This work was made at the request of the Board of Forestry and Parks which wished to determine the character of rock which had been reported exposed there. The drilling in the Park, however, failed to show anything of special interest. This entire section is underlaid with Caloosahatchee marl, covered with heavy sand. Small outcrops of a white clay-like substance are exposed along the canals through the park.

Hole DS-5 was drilled in Sec. 21, T37S, R20E, along the road leading to Upper Lake on the west side of Myakka River near the bridge. A sandy, slightly calcareous marl was entered after having gone through 10 feet of sand, which continued to the bottom of the hole at 30 feet.

Hole DS-6 was put down in Sec. 22, T37S, R20E, on the east side of the Myakka River at the intersection of the All Weather Road and the Atlantic Coast Line Railroad. This hole showed 10 feet of sand and then sandy, slightly calcareous marl, quite similar to that in Hole DS-5. The hole was abandoned at 25 feet.

No further drilling was attempted in the park as it was deemed

unnecessary. Hole DS-7 was drilled in NW$\frac{1}{4}$ Sec. 12, T37S, R18E, on State Highway 220 about 2 miles northeast of Bee Ridge on rather high, slightly rolling sand ridge land. This hole showed only sand for 25 feet and was discontinued at this depth.

Pasco County

While the investigation of dolomitic formation in Pasco County was under way, Mr. L. F. Fernald of Tarpon Springs reported a gravel deposit which he had discovered in the northwest part of the county about 2 miles south of Aripeka, or 4 miles northeast of Hudson, 0.6 mile northwest of State Highway 15, in the NW$\frac{1}{4}$ Sec. 13, T24S, R16E. This location was in a sandy flat woods section far from any stream. For this reason it was deemed worthy of investigation and study, both as to origin and the extent of the deposit, so a few holes were put down. A small tract perhaps 2 or 3 acres in area, showed smooth well rounded gravel pebbles scattered rather thinly in the surface sands. The largest pebbles were about $\frac{1}{2}$ inch in diameter.

A point approximately in the center of the gravel area was selected for the location of the first Hole GP-1, which was drilled to determine the thickness of the gravel bed. The first 5 feet contained very few pebbles. Below 5 feet gravel pebbles became more abundant, and continued to a depth of 25 feet. At that level a siliceous limestone was entered, and the hole was completed at 30 feet in the same formation. Therefore, this hole indicates the maximum thickness of the gravel bed to be about 25 feet.

The next location was about 0.2 of a mile northerly from the center of the deposit near the edge of a low, marshy area, which is possibly an old river bed. Hole GP-2 was drilled there and penetrated sand to a depth of 10 feet, at

which point a siliceous limestone was entered. This limestone continued to a depth of 20 feet, but the hole was discontinued as conditions appeared unfavorable.

In order to outline the deposits more closely Hole GP-3 was put down at a point about midway between Hole GP-1 and Hole GP-2; in other words, 0.1 mile northerly from the center of the bed. This hole went through 10 feet of sand where a siliceous limestone was found. At 12 feet, an 18-foot cavity was encountered, limestone reappearing at 30 feet, where the hole was abandoned. This hole discouraged further drilling to the north of the bed.

Hole GP-4 was drilled about 0.4 of a mile southeasterly from the center of the bed to determine the extent of the deposit to the south and east. This hole went through 15 feet of sand, which showed no gravel whatever. As further drilling would have required casing, and indications were unfavorable, the hole was abandoned.

To complete the investigation of the deposit, a series of hand auger holes was put down east and west of the bed. Those holes showed no gravel beyond the small area where pebbles were visible on the surface. About 300 feet east of the bed low marsh appears, and on the west side, less than ¼ mile from the gravel bed, limestone boulders are exposed in a small pit.

BIBLIOGRAPHY

Colby, Shirley F.
1941 Occurrences and uses of dolomite in the United States: United States Bureau of Mines Information Circular 7192.

Lamar, J. E. and Willman, H. B.
1938 A summary of the uses of limestone and dolomite: Illinois State Geological Survey, Report of Investigations, No. 49.

North, F. J.
1930 Limestones: Thomas Murby & Company, London.

Thoenen, J. R.
1939 Mineral wool: United States Bureau of Mines Information Circular 6984R.