

COPY

December 5, 1958

Mr. Kenneth Storm
Cambria,
Illinois

Dear Mr. Storm:

We have completed our tests on the 53-foot section of 1 1/2-inch limestone core which you submitted to us for the Ramona Stone Company on November 14, 1958. The core from which this section was taken was drilled from a deposit on the Lokerse property in the SE 1/4, NW 1/4, Sec. 11, T12S, R2E, Johnson County, approximately 1 mile north and 1 mile east of the village of Buncombe.

Herewith are two folders, each folder containing two copies of the log we made on the section of core submitted. Folders containing copies of the log are also being sent to W. D. MacLeod, District Engineer of District No. 9 at Carbondale, Illinois, and to Mr. J. E. Lamar of the Illinois Geological Survey at Urbana.

This section of core represents the 53 feet of ledges in the deposit, in the level from 44- to 97-foot depth.

We do not ordinarily attempt to test cores that are less than 2 inches in diameter for they are in most cases too small to provide the quantity of stone and also the size and grading of crushed material that we should have to determine the quality of the stone in the different ledges represented in the core.

The split halves of a 1 1/2-inch core are only 3/4 inch in thickness, and the resulting crushed material produced from these split sections does not give the size between 1 inch and 1 1/2 inch that is needed in the gradation specified for the tests.

A 2-inch core is the smallest size core that will ordinarily provide the quantity of stone and the proper size of crushed material that is required for the soundness and abrasion tests that should be made to determine its quality in relation to the requirements of our Standard Specifications for use as road materials.

However, in this particular case, due to the fact that the stone in most of the 11 different workable ledges is very similar - both in general quality and characteristics, we were able by combining the ledges into 2 groups, as shown on the log, to obtain a sufficient quantity of stone for 2 abrasion tests and 2 sodium sulfate soundness tests.

Although the top sizes and the gradation of the crushed material used did not fully comply with the sizes and gradations specified, the results of the tests as they were made do serve to give a very good indication as to the general quality of the stone represented.

From the results of the specific gravity, abrasion, and soundness tests we were able to make on the stone provided by this section of core, the indications are that when the deposit is opened, the stone in the ledges in this 42-foot level should be found to be of excellent quality for use as surfacing material, and that it should also be found to be of suitable quality for use in both portland cement concrete and the higher types of bituminous work, provided of course that it is produced free of any shale or sandstone from the ledges above, or any shale from below 92 feet 6 inches.

Although there are some small variations in color and in texture or grain size, as can be noted in the log, the general quality of the stone in the ledges in this section of core, with the exception of ledge No. 5 appears to be much the same. There is little variation in the specific gravities and absorptions shown for the stone in the ledges 4 to 15 inclusive.

The information provided by this log should give a fairly good idea of the quality and characteristics of the stone that will be found in the 53 feet 6 inches of ledges in the level from 49 feet to 92 feet 6 inches when the deposit is opened.

If you should open this deposit, please contact Mr. F. P. Brock, District Engineer of Materials of District 9 at Carbondale, Illinois when quarrying operations begin. He will supervise the inspection and tests on any materials that may be produced for use on State projects.

Very truly yours,

J. D. Lindsay
ENGINEER OF MATERIALS

cc: W. D. MacLeod
J. E. Lamar
W. H. Schneider

LOG OF 53' SECTION OF 1 1/2-INCH LIMESTONE CORE. LAB. NO. 58-13098.

This core section was submitted by Kenneth Storm for the Ramona Stone Company on November 14, 1958. The core from which this 53' section was taken was drilled to a depth of 97' in a deposit on property owned by G. Lokerse in Johnson County, approximately 1 mile north and 1 mile east of the village of Buncombe, in the SE 1/4, NW 1/4, Sec. 11, T12S, R2E. This section of core represents the 53' of ledges in the deposit from 44' to 97' depth. No information was given as to the exact location in the deposit from which the core was taken. This is the same deposit from which the core tested under 58-1827, which was submitted by G. Lokerse, was taken in April 1958.

Depth Feet	Ledge No.	Sp.Gr. % Abs.	Classification
44	Top		
45	1 2' 2"	No test	Light gray, laminated, silty shale.
46			60
47	2 1' 8"	No test	Tan to brown, laminated, shaly sand. Limonite streaks in laminations.
48			75
48	3 1' 2"	No test	Weathered zone. Mottled light gray sandy stone, with heavy limonite inclusions.
49			90
50	4 2' 0"	2.69 0.9	Gray to dark gray, fine to medium grained, crystalline limestone, with a few shaly laminations and brown weathered zones.
51			65
52			80
53	5 3' 0"	2.71 1.7	Dull drab gray colored, fine grained, finely crystalline, slightly argillaceous limestone. Moh 3-4.
54			95
55	6 2' 0"	2.70 0.2	Dark gray, medium grained, crystalline limestone. Moh 4.
56			70
57			85
58	7 2' 0"	2.69 0.3	Gray, medium grained crystalline limestone. Moh 4.
59			85
60			85
61			85
62			85
63			85
64			85
65			85
66			85
67			85
68			85
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85			85
86			85
87			85
88			85
89			85
90			85
91			85
92			85
93			85
94			85
95			85
96			85
97			85

REMARKS

From information given by the maps and bulletins of the Illinois Geological Survey, and from the known elevation in the particular location from which this core was taken, the indications are that the ledges represented by this 53' section of core belong to the upper portion of the Chester group of Mississippian age.

The stone in the 43' 6" section from 49' to 92' 6" depth- ledges 6 to 15 inclusive, is in general a dark gray, crystalline limestone, ranging from fine to coarse grained with some small areas in which there are thin laminations and dark lines indicating fine shale or clay partings. The stone in these ledges is in general of very good quality as indicated by the results of the abrasion and soundness tests shown below.

The soundness and abrasion tests that we were able to make on this 1 1/2-inch core were run on graded samples of crushed material which was prepared by crushing the pieces from the two halves of the split core in a small jaw crusher. The gradation of the samples tested was approximately 1" to No. 4.

Note - A 1 1/2-inch core is too small to provide the quantity of stone we should have for our tests to determine the quality of the stone in the different ledges represented in the core, with any degree of accuracy. A 2-inch core is the standard size.




This log serves to show the approximate thickness of the different ledges, and the accompanying test data gives some indication of the quality of the stone in the individual ledges and in the deposit.

LOS ANGELES ABRASION TESTS

From ledges	% loss
6, 7, 8, 9, 10, 11, 12 combined	21.3
13, 14, 15 combined	18.1

SODIUM SULFATE SOUNDNESS TESTS

From ledges	Wt'd av. % loss
6, 7, 8, 9, 10, 11, 12 combined	5.75
13, 14, 15 combined	3.47

-  Silty shale and weathered shaly sandstone.
-  Dark gray or black, shaly laminated stone.
-  Black chert.

LOG OF 53' SECTION OF 1½-INCH LIMESTONE CORE. LAB. NO. 58-13098.

This core section was submitted by Kenneth Storm for the Ramona Stone Company on November 14, 1958. The core from which this 53' section was taken was drilled to a depth of 97' in a deposit on property owned by G. Lokerse in Johnson County, approximately 1 mile north and 1 mile east of the village of Buncombe, in the SE¼, NW¼, Sec. 11, T12S, R2E. This section of core represents the 53' of ledges in the deposit from 44' to 97' depth. No information was given as to the exact location in the deposit from which the core was taken. This is the same deposit from which the core tested under 58-1827, which was submitted by G. Lokerse, was taken in April 1958.

Depth Feet	Ledge No.	Sp.Gr. % Abs.	Classification	Remarks
44	Top			
45	1 2' 2"	No test	Light gray, laminated, silty shale.	
46				60
47	2 1' 8"	No test	Tan to brown, laminated, shaly sand. Limonite streaks in laminations.	
48				75
49	3 1' 2"	No test	Weathered zone. Mottled light gray sandy stone, with heavy limonite inclusions.	
50	4 2' 0"	2.69 0.9	Gray to dark gray, fine to medium grained, crystalline limestone, with a few shaly laminations and brown weathered zones.	
51				65
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53	5 3' 0"	2.71 1.7	Dull drab gray colored, fine grained, finely crystalline, slightly argillaceous limestone. Moh 3-4.	
54				80
55	6 2' 0"	2.70 0.2	Dark gray, medium grained, crystalline limestone. Moh 4.	
56				95
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87				
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89				
90				
91				
92				
93				
94				
95				
96				
97				
				Bottom of core.

REMARKS

From information given by the maps and bulletins of the Illinois Geological Survey, and from the known elevation in the particular location from which this core was taken, the indications are that the ledges represented by this 53' section of core belong to the upper portion of the Chester group of Mississippian age.

The stone in the 43' 6" section from 49' to 92' 6" depth- ledges 6 to 15 inclusive, is in general a dark gray, crystalline limestone, ranging from fine to coarse grained, with some small areas in which there are thin laminations and dark lines indicating fine shale or clay partings. The stone in these ledges is in general of very good quality as indicated by the results of the abrasion and soundness tests shown below.

The soundness and abrasion tests that we were able to make on this 1½-inch core were run on graded samples of crushed material which was prepared by crushing the pieces from the two halves of the split core in a small jaw crusher. The gradation of the samples tested was approximately 1" to No. 4.

Note - A 1½-inch core is too small to provide the quantity of stone we should have for our tests to determine the quality of the stone in the different ledges represented in the core, with any degree of accuracy. A 2-inch core is the standard size.




This log serves to show the approximate thickness of the different ledges, and the accompanying test data gives some indication of the quality of the stone in the individual ledges and in the deposit.

LOS ANGELES ABRASION TESTS

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SODIUM SULFATE SOUNDNESS TESTS

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13, 14, 15 combined	3.47

-  Silty shale and weathered shaly sandstone.
-  Dark gray or black, shaly laminated stone.
-  Black chert.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

MEMORANDUM

DATE August 17, 1959

TO	SUBJECT
J. D. Lindsay <i>J. D. L.</i>	Ramona Stone Co. Buncombe, Illinois
FROM	
S. M. Peters	

The nine pictures in this group were taken at the quarry of the Ramona Stone Co. at Buncombe, in Union County on Monday, August 10, 1959. They show the quarry as it was when Frank Brock, District Engineer of Materials of District 9, and I, in company with E. G. Ross and Richard Kiel, were there on that date.

Note here that the deposit was opened on the east side of the railroad and on the south side of Grasshopper Creek in the area that was cored, but that the plant was set up on the west side of the railroad and on the north side of the creek.

The area on the east side of the railroad that is presently being worked that is leased by Ramona Stone Co., covers only 17 acres. When this is worked out the area on the west side of the track and on the south side of the creek will be opened. The Ramona Stone Company has 320 acres available for quarrying in this area.

A new plant has been installed here and preparations are being made to handle rail shipments as well as truck shipments. A spur from the railroad is now being installed in the level area north of the plant with a siding for storage of cars. The C&EI and the CB&Q railroads have a joint track here, and the Ramona Stone Co. will have the services of both roads. The spur will be in service very shortly.

The plant and storage area is located approximately 1/4 mile east of the highway SBI Rt. 37. As can be seen in pictures 1, 2 and 3, a very good road has been built in to the plant.

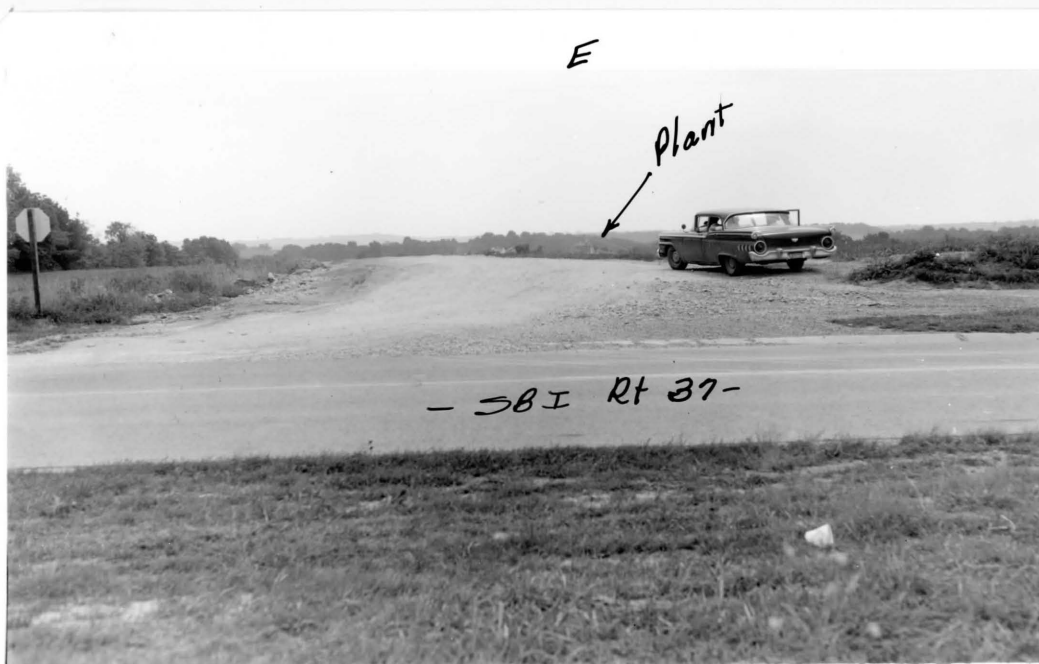
The stone in the ledges exposed in this deposit is the Kinkaid formation of the Upper Chester group of Mississippian age. As shown by the tests made on the stone provided by the cores that were taken from the deposit--it is of very good quality and suitable for use in any of our work.

Please place this file in the back of the folder you have in your files dated 1-5-59 which contains the log on the core from this deposit. It is punched for that purpose.

cc: W. D. MacLeod
J. E. Lamar
W. H. Schneider

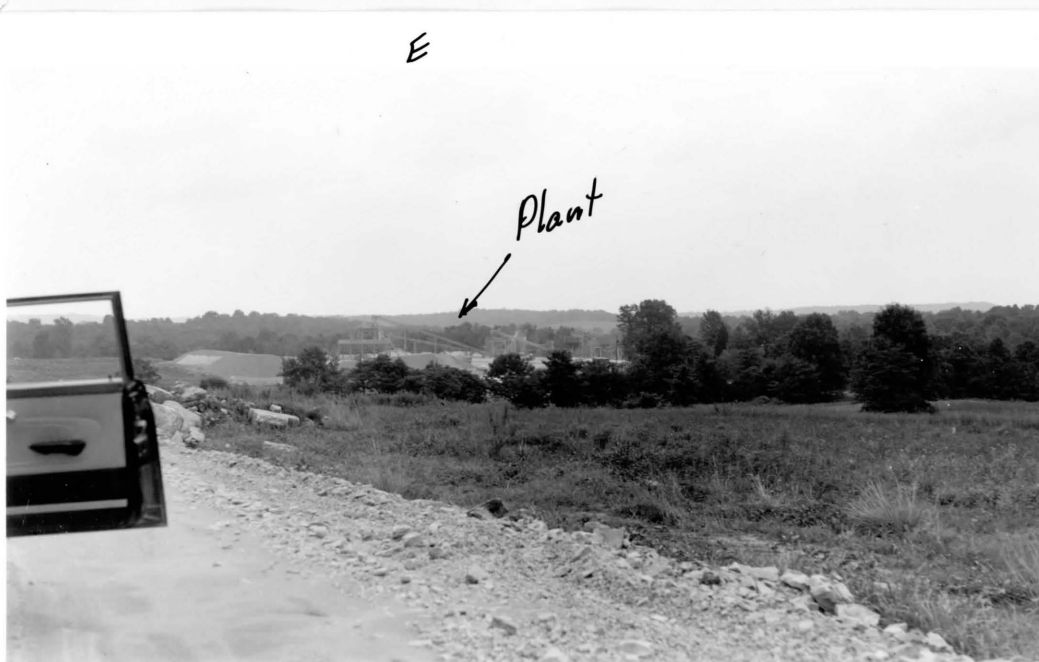
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1



The nine pictures in this group show the quarry and plant area of the Ramona Stone Company at Buncombe, in Union County--as it was on Monday, August 10, 1959. This picture shows the entrance road from Rt. 37, and the location of the plant which can be seen in the background.

2



Looking southeast toward the plant from the entrance road about 100 yards east of Rt. 37.

3

Spur will come
in here from
north

E

Office and
Scale house



This is the office and scale house with the plant and stockpile area in the left background.

4

Spur will come
here

E

Crusher



View of the plant assembly from the north west corner of the stockpile area.

5



Looking east toward the railroad bridge and the quarry from above and just north of the crusher.

6



On the road under the bridge to the quarry. The crusher is at the left.

7



Looking south east from the road under the bridge--toward the area that is presently being worked. This is the area in which the 2-inch cores which were tested in this laboratory, were taken.

8



Closer view of the area that is being quarried--from the entrance.

5



9

This is the 35- to 40-foot face that was being worked on August 10, 1959.

It should be noted here that in the course of the regular inspection by Mr. Kerwath of District 9, of the crushed materials in the stockpiles at the plant, that were produced from this face, it was noted after a rain storm that there were a considerable number of pieces of the softer brown colored rock from the top ledges in the pile.

Although the quantity of the brown colored stone appeared to be less than the 5% limit for soft and deleterious pieces, and although all of the brown colored stone was not soft--it was thought best to take several samples of the crushed material for counts to determine the quantity of the brown colored stone that was present, and also to see how much of it was deleterious if any.

Accordingly the following samples were taken.

Brown colored top stone (ledge rock)	-	59-8087
Size A	-	59-8088
Size B	-	59-8089
Class X	-	59-8090