

05/15/90

Page Number 1

WNUMBER: 623 COUNTY: (19043) HARRISON

LOCATION: BD sec. 19 R42W T 79N LATITUDE & LONGITUDE:

ELEVATION: 1021

OWNER NAME: IOWA HIGHWAY COMMISSION

PROJECT NAME:

C-75

SYSTEM	SERIES	GROUP	FORMATION	MEMBER	DEPTH_TOP	DEPTH_BTM	CORE BOX NUMBER	CORE LOCATION
PENNSYLVANIAN					0.9	34.8	1/2	A52R6

WNUMBER: 623

September 15, 1937

Mr. L. W. Wood, Geologist  
Iowa State Highway Commission  
Ames, Iowa

Dear Mr. Wood:

Thank you for your letter of September 14 enclosing the identification list of the core samples from the Logan test project and the complete log of the test hole. We will make every effort to supply the information that you desire, and just as soon as it is possible to make a thorough examination of the material will report our findings to you.

We will appreciate, of course, receiving the material from Crescent, Iowa, and any other areas that you may test in this same manner.

Yours very truly,

A. C. Tester

ACT:A

*Note:*

~~W 0623~~

IOWA  
STATE HIGHWAY COMMISSION  
AMES, IOWA

COMMISSIONERS  
O. J. DITTO, CHAIRMAN, SIBLEY  
H. M. GREENE, AVOCA  
C. L. MCKINNON, NEW LONDON  
I. H. KNUDSON, JEWELL  
F. P. HAGEMANN, WAVERLY

September 14, 1937

F. R. WHITE, CHIEF ENGINEER

Iowa Geological Survey  
c/o State University of Iowa  
Iowa City, Iowa

ATTENTION: Mr. A. C. Tester  
Asst. State Geologist

Gentlemen:

We are forwarding to you by express one box containing samples from the core drilling made at Logan. Following is the identification of these samples:

No. 1	0.9 ft. to 2.1 ft.	Limestone	} Composite sample analyzed chemically
No. 2	2.1 ft. to 3.7 ft.	Shale, gray	
No. 3	3.7 ft. to 8.3 ft.	Shale, black	
No. 4A	8.3 ft. to 10.9 ft.	Limestone, chiefly	} Composite Sample analyzed Chemically
No. 4B	10.9 ft. to 20.4 ft.	" "	
No. 4C	20.4 ft. to 22.8 ft.	" "	
No. 5	22.8 ft. to 30.0 ft.	Shale, gray	
No. 6	30.0 ft. to 34.0 ft.	Limestone	
No. 7	34.0 ft. to 38.2 ft.	Shale, red	

This material is the part of the core left after samples were taken for our physical tests.

The attached sheet gives the detailed log of this drilling, and information as to its location and elevation. The limestone from 0.9 feet to 2.1 feet is the lower portion of Bed No. 6 of my previous section at this point, published in the Iowa Geological Survey, Volume 36, page 115.

We would like to have you examine these samples and send us a report of your findings as to fossils identified, insoluble residues, or any other particulars observed. We are also interested in your ideas as to the correlation of these beds.

We are now drilling at Crescent, Iowa; and when that work is done we will send you similar samples and information and would like a similar report.

Very truly yours,

*L. W. Wood*  
L. W. Wood  
Geologist

LWW:PT  
Enclosure

IOWA STATE HIGHWAY COMMISSION

DEPARTMENT OF MATERIALS AND TESTS

REPORT OF MATERIAL DEPOSIT INVESTIGATION  
 With Logs of Test Holes

Sheet 1 of 2

County Harrison Location SE 1/4 NW 1/4 Sec. 19 T. 79 R. 42 Civil Twp. Jefferson  
 Land Owner Town of Logan Address \_\_\_\_\_  
 Date of Investigation Sept 9-10, 1937 Contemplated for use on Matl Proj #51 Dead Haul \_\_\_\_\_ Mi.

Test Hole No.	Coordinates		Surface Elev.	Depth to Water Feet	Depth		Log of Hole	Prevailing Max. Size Inches	Length of				
	Feet	Feet			From - Ft.	To - Ft.			Kind of Material	No. of Shells	No. of Stones	No. of Cores	Feet
1	609 N	84 W	See note (Present low river level)	9.6	0.0	0.9	Clay -- wash				0.0		
					0.9	2.1	Limestone, gray, hard, fossiliferous.				0.7		
					2.1	3.7	Shale, soft, gray				1.0		
					3.7	8.3	Shale, hard, black, friable, grading in lower foot to shaly limestone				3.3		
					8.3	9.2	Limestone, fine-grained, gray, hard				0.9		
					9.2	9.9	Limestone, shaly				0.3		
					9.9	10.6	Limestone, fine-grained, gray, hard, with 0.10' band of chert at top				0.7		
					10.6	10.9	Limestone, soft, shaly				0.2		
					10.9	11.8	Limestone, fine-grained, gray, hard				0.9		
					11.8	13.2	Limestone, gray, hard, fine-grained, with thin shaly zones totaling about 4%				1.4		
					13.2	13.4	Shale, soft, gray				0.0		
					13.4	16.4	Limestone, gray, hard, fine-grained, with thin shaly zones totaling about 1%				3.0		
					16.4	16.5	Shale, gray, soft				0.05		
					16.5	16.8	Limestone, gray, hard, fine-grained				0.3		
					16.8	18.2	Limestone, gray, hard, fine-grained, with shaly zones totaling about 7%				1.3		
					18.2	20.4	Limestone, gray, fine-grained, <del>hard</del> in three layers totaling 1.3 feet, top medium hard, bottom hard				1.3		
					20.4	21.8	Limestone, gray, fine-grained, hard, grading into - - - -				1.4		
					21.8	22.8	Limestone, shaly, gray, grading into - -				1.0		
					22.8	23.8	Shale, calcareous, grading from light gray to dark gray				1.0		
					23.8	24.0	Shale, black				0.1		
					24.0	25.6	Shale, gray, fossiliferous, grading from hard to soft				1.5		
					25.6	27.8	Shale, gray, soft to medium hard				0.7		
					27.8	29.7	Shale, gray, soft				0.0		
					29.7	30.0	Layers of limestone, and shale, gray				0.0		

Estimate: Area \_\_\_\_\_  
 Stripping Depth \_\_\_\_\_ feet  
 Stripping Quantity \_\_\_\_\_ cu. yds.  
 Material Depth \_\_\_\_\_ feet  
 Material Quantity \_\_\_\_\_ cu. yds.

Chief of Party \_\_\_\_\_  
 Copies to: \_\_\_\_\_

IOWA STATE HIGHWAY COMMISSION  
 DEPARTMENT OF MATERIALS AND TESTS  
 REPORT OF MATERIAL DEPOSIT INVESTIGATION  
 With Logs of Test Holes

Sheet 2 of 2

County Harrison Location SE 1/4 NW 1/4 Sec. 19 T. 79 R. 42 Civil Twp. Jefferson  
 Land Owner Town of Logan Address \_\_\_\_\_  
 Date of Investigation Sept 9-10, 1937 Contemplated for use on Matl Proj #51 Dead Haul \_\_\_\_\_ Mi.

Test Hole No.	Coordinates		Surface Elev.	Depth to Water Feet	Depth		Log of Hole Kind of Material	Prevailing Max. Size Inches	Length of Core		
	Feet	Feet			From - Ft.	To - Ft.			inch	No. of	ft.
1	609 N	84 W	See Note	9.6	30.0	33.0	Limestone, gray, hard, with very thin shale veinlets			3.0	
	Present (low) river level.				33.0	34.0	Limestone, gray, shaly			1.0	
					34.0	34.7	Shale, calcareous above to soft below, maroon			0.7	
					34.7	38.2	Shale, maroon mottled with gray, medium hard			2.2	
	NOTE: Reference Point is fence corner, assumed to be property corner, 574.2 feet west and 212.9 feet south of center, Section 19.										
	Bench Mark is top of south end of concrete abutment at east end of local road bridge over Boyer River approximately 710 feet north of test hole. Approximate Elevation - 1032 feet above sea level (bench mark). Ground Elevation at test hole - 11.0 feet lower than bench mark.										
	NOTE: Limestone from 0.9 feet to 2.1 feet depth is lower part of ledge exposed in east side of old quarry in 11.4 feet maximum thickness.										

Estimate: Area \_\_\_\_\_  
 Stripping Depth \_\_\_\_\_ feet  
 Stripping Quantity \_\_\_\_\_ cu. yds.  
 Material Depth \_\_\_\_\_ feet  
 Material Quantity \_\_\_\_\_ cu. yds.

L. W. Wood & R. A. Wilkinson  
 Chief of Party  
 Copies to: \_\_\_\_\_

~~W 0523~~

IOWA  
STATE HIGHWAY COMMISSION  
AMES, IOWA

COMMISSIONERS

C. L. MCKINNON, CHAIRMAN, NEW LONDON  
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EUS A. OLSON, WHITING  
A. A. HURST, MAQUOKETA

November 9, 1937

F. R. WHITE, CHIEF ENGINEER

Iowa Geological Survey  
103 Geology Building  
Iowa City, Iowa


Gentlemen:

We have your letter of November 5 and wish to thank you for your information regarding the recent well drilling at Woodbine, Harrison County.

Our recent core drilling at Logan shows the Winterset, Bethany Falls and Hertha limestones of the Missouri series, with reddish shale and siltstone below the Hertha. The rock ledge outcropping in the bed of Boyer River at Woodbine is reported by well drillers as being about 5 feet thick. The thickness and position of this ledge, in connection with the correlation of the strata at Logan, and with the southward dip which seems prevalent in that locality, leads to the belief that it is the Hertha. If such is the case, might it not be that the shale and siltstone in the lower part of the Woodbine well should be referred to the Des Moines series rather than to the Dakota?

I will be much interested in your ideas on this matter.

Yours very truly,

  
L. W. Wood  
Geologist

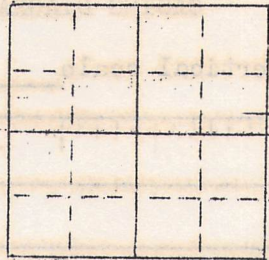
LWW:F

W-623

CORE  
C-075

IOWA GEOLOGICAL SURVEY  
In Cooperation with U. S. Geological Survey

RECORD OF WELL



Location:

Town: LOGAN (NE)  
(SW): County HARRISON  
SE - NW sec. 19 T 79 N., R. 42 W. Jefferson Twp.

Well name and number Iowa State Highway Commission test pit

Owner \_\_\_\_\_ Address \_\_\_\_\_

Tenant \_\_\_\_\_ Address \_\_\_\_\_

Contractor State Highway Commission Address \_\_\_\_\_

Drillers \_\_\_\_\_

Drilling dates SEPT. 1937

Well data:

Elevations: Drilling curb 102.1 feet; Land surface \_\_\_\_\_ feet

Bench mark: top of southern end of concrete abutment at east end of local road bridge over Boyer River 1032' (11' higher than test hole)

Determined by State Highway Commission

Topographic position \_\_\_\_\_

Total depth: Reported 38.2 feet, Measured \_\_\_\_\_ feet

Drilling method \_\_\_\_\_

Hole and casing data \_\_\_\_\_

Original depth to water \_\_\_\_\_ above  
ft. below \_\_\_\_\_ Date \_\_\_\_\_

Original elevation of water level \_\_\_\_\_ ft.; Source of data \_\_\_\_\_

Sources of water: Principal \_\_\_\_\_ ; Others \_\_\_\_\_

Production data:

Date

Static depth to water \_\_\_\_\_ Measuring point \_\_\_\_\_

Pumping level \_\_\_\_\_ at \_\_\_\_\_ g.p.m.

Specific capacity \_\_\_\_\_ g.p.m. per ft. drawdown; Temperature \_\_\_\_\_ °F.

Pump data: Type pump \_\_\_\_\_ Column Dia. \_\_\_\_\_ Length \_\_\_\_\_

Cylinder or bowls: Dia. \_\_\_\_\_ Length \_\_\_\_\_ Suction pipe \_\_\_\_\_

Power \_\_\_\_\_ Airline \_\_\_\_\_

Estimated rate of production: \_\_\_\_\_ g.p.m. for \_\_\_\_\_ hrs. a day

Use of water \_\_\_\_\_

WATER ANALYSES (in parts per million)

Date samples	_____	_____	_____	_____
Sampled by	_____	_____	_____	_____
Total solids	_____	_____	_____	_____
Insoluble matter	_____	_____	_____	_____
Alkalinity (Meo)	_____	_____	_____	_____
Alkalinity (Phn)	_____	_____	_____	_____
pH	_____	_____	_____	_____
Fe <sub>2</sub> O <sub>3</sub> + Mn <sub>2</sub> O <sub>3</sub> +Al <sub>2</sub> O <sub>3</sub>	_____	_____	_____	_____
Alkali as sodium	_____	_____	_____	_____
Calcium	_____	_____	_____	_____
Magnesium	_____	_____	_____	_____
Iron (unfiltered)	_____	_____	_____	_____
Manganese	_____	_____	_____	_____
Nitrate	_____	_____	_____	_____
Fluoride	_____	_____	_____	_____
Chloride	_____	_____	_____	_____
Sulfate	_____	_____	_____	_____
Bicarbonate	_____	_____	_____	_____
Hardness (ppm)	_____	_____	_____	_____
Hardness (gpg)	_____	_____	_____	_____

Remarks \_\_\_\_\_

Laboratory data:

Sample storage location 397-398

Sample range 0.9 - 38.2 No. spls. 9 No. dupls. & cond. 0

Spls. prepared by L. Thomas Washed range \_\_\_\_\_ by \_\_\_\_\_

Driller's log and cond. \_\_\_\_\_

Insoluble residues: Prepared by \_\_\_\_\_ Studied by \_\_\_\_\_ Strip log \_\_\_\_\_

Microscopic study \_\_\_\_\_ strip log from Wood

Gen. log \_\_\_\_\_ Correl. by \_\_\_\_\_