

County WABASH
T 27 N R 6 E
Sec Reserve 55
Other Survey

Quarry or Pit Core ☒ Dim Other
Name .. Survey Drill Hole #169
Former Names
.....
Operator Joe W. Yarnelle Farm
Former Operators

COAL AND INDUSTRIAL MINERALS SECTION
INDIANA GEOLOGICAL SURVEY
DEPARTMENT OF NATURAL RESOURCES
611 NORTH WALNUT GROVE
BLOOMINGTON, INDIANA 47401

MEMORANDUM REPORTS BY:	
Name	Date
1. Robert H. Shaver	Nov. 27, 1968
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REMARKS

Log of Core from Indiana Geological Survey Drill Hole 169, Joe W. Yarnelle
Farm (J. B. Richardville Reserve 55, 2080 ft. SL, 2700 ft. EL, T. 27 N.,
(SE 1/4 NE 1/4 SW 1/4 16-27N-6E)
R. 6 E.), Wabash County, Indiana. Elevation, 752 ft.

Robert H. Shaver, November 27, 1968

Ft.

Silurian System

Wabash Formation, Liston Creek Limestone Member, 37.3 ft. cored:

1. Limestone, light-gray, mostly very fine-grained, very cherty; chert is in small to medium, irregular nodules that consist either wholly of chert of white, tripolitic aspect or of that surrounding fresh, white to grayish blue centers; in patches the fine-grained limestone is actually a matrix containing medium to coarse, biofragmental grains; many thin, wavy dark shale laminae associated especially with abundant chert nodules, which become sparse in lower few ft.; from top of coring - - - - 22.0-55.0
2. Limestone, gradational with unit 1, but lacks chert and abundant laminae and has more coarse fragments; has sparsely scattered glauconite - - - - 55.0-58.7
3. Limestone, gray to yellow-brown (lower half), fine-grained, very glauconitic; unit is the Red Bridge Limestone Bed - - - - 58.7-59.3

Wabash Formation, Mississinewa Shale Member, 124.7 ft.:

4. Dolomite, gray, some being pale yellow, very fine-grained, earthy, argillaceous, probably worm-bored; yellow parts are few inches to a foot thick, suggesting oxidation and exposure as does the yellow part of unit 3 - - - - 59.3-70.0
5. Limestone, very light-gray, very fine-grained, earthy, possibly siliceous; lowest inch is a fine-pebble carbonate conglomerate - 70.0-71.3
6. Dolomite (and some limestone), gray, some being pale yellow in upper 10 ft., as in unit 4; in patches as much as 3 ft. thick and in alternating intervals of a few feet is limestone of coarse biofragmental aspect or such limestone in dolomite matrix, suggesting fingers of reef-detrital material, at least in interval 126.0-129.0; core not seen 88.0-88.8 and 99.0-101.1 - - - - 71.3-164.9
7. Dolomite (and some limestone), as in unit 6; limestone is tannish gray, medium grained, less abundant than dolomite in intervals less than 1 ft. thick; units 7 and 8 are transitional between Mississinewa and Louisville lithology - - - - 164.9-183.7

This is the same bed that makes the lip of nearby Shanty Falls

Louisville Limestone, 81.9 ft.:

8. Limestone (and some dolomite), as for unit 7 but limestone (in coarser granularity than dolomite) here dominant; core not seen 186.0-186.8 - - - - - 183.7-189.7
9. Limestone and dolomitic limestone, gray-tan, fine- to medium-grained, slightly pyritic; has dark-colored, irregular to stylolitic, laminae - - - - - 189.7-198.0
10. Limestone, gray and tan mottled, medium-grained; has few stylolitic partings - - - - - 198.0-202.3
11. Limestone, mostly prominently mottled in tan contrasting with very light tan, tan with gray, and tan with tan, mostly very fine grained, lithographic in small part; has incipient nodular aspect in part and stylolitic and other partings; has appearance in part of being constituted at one time of breccia of partly consolidated carbonate-mud fragments; has some larger bioclastic grains and areas of coarse recrystallization - - - - 202.3-223.6
12. Dolomitic limestone (upper few ft.) and dolomite, mostly strikingly mottled gray and tan and shades of tan; middle few ft. (233.6-238.8) especially are nodular as brought about by abundance of slack, shaly, very irregular laminae - - - - - 223.6-243.8
13. Dolomite, tannish-gray, very fine-grained, earthy, argillaceous; has abundance of black, somewhat wavy laminae; has some vermiform markings - - - - - 243.8-250.0
14. Dolomite, mottled gray and tan and shades of tan, also light brown, nonmottled, mostly fine-grained; some mottling is striking, coarse; has some dark-colored, irregular partings producing nodular aspect in part; has brecciated zone at 252.7-253.5 - - - - - 250.0-265.6

Waldron Formation, 23.3 ft.:

15. Dolomite, gray to dark-gray and tan, somewhat color-banded, very fine-grained, argillaceous, nodular; has great many black, irregular shaly partings associated with nodular aspect - - - - 265.6-288.9

~~Salamonie Dolomite, 99.4 ft.?:~~

- LIMBERLOST
16. Dolomite, mostly grayish-tan but variable in patches of solid tan to thinly colored laminated, to prominently gray and tan mottled, mostly fine-grained; has some dark-colored, somewhat irregular partings; unit corresponds to the so-called Brown Niagaran of much drillers' usage in the Michigan Basin - - - - 288.9-315.8

Salamonie - C. Renard B. 58, 1980

17. Dolomite, whitish gray, fine- to medium-grained, finely vuggy, pure, biofragmental; has few stylolites; unit corresponds to so-called White Niagaran of Michigan Basin usage and to much of the Laurel Member (of Salamonie); core not seen 330.0-331.9 and 336.0-336.6 - - - - - 315.8-339.4
18. Dolomite, pale grayish-tan, vermiform-mottled with gray in part, very fine-grained, nearly earthy - - - - - 339.4-346.1
19. Dolomite, gray, fine-grained; has few somewhat stylolitic partings - - - - - 346.1-357.9
20. Dolomite, whitish-gray, mostly like that of unit 17, pure, but bottom 2½ ft. is gray, medium-grained, biofragmental, less pure - - - - - 357.9-366.6
21. From top down, approximately greenish-gray, earthy, very fine-grained dolomitic shale; gray, very fine-grained, argillaceous dolomite; gray, fine-grained dolomite having few dark-colored shaly partings; gray, fine-grained dolomite interbedded with green, pyritic, glauconitic shale, both shale and dolomite containing breccias or stringers of the other; and gray, medium-grained vuggy, mostly pure dolomite having some coarse breccia of both dolomite and shale; units 21-23 could be Ordovician in age but supposed here to correspond to both the Osgood Member (wholly or in part) and Brassfield Limestone of southern Indiana and to the Cataract Group (in part) of the Michigan Basin - - - - - 366.6-376.0
22. Dolomite, light-gray, fine-grained, somewhat saccharoidal, finely vuggy, rather pure, but has some abundance of faint to clearly distinct, somewhat irregular, dark-colored laminae; sparsely glauconitic - - - - - 376.0-388.3

Brassfield Limestone?, 11.0 ft.:

23. Dolomite, much like that of unit 22 but has more brownish-gray color, coarser grained (medium), on the obviously biofragmental, and has more and more prominent shaly partings; glauconitic; few inches of shaly breccia at base; both units 22 and 23 are odd appearing dolomite to be either of certain Ordovician or Silurian age, and Petroleum Section picks Ordovician top in 360-380 interval; needs faunal determination - - - - - 388.3-399.3

Ordovician System

Cincinnati rocks unidentified to formation, 80.7 ft. cored:

24. Shale, dolomitic shale, and dolomite, basically grayish-green; dolomite is gray, fine-grained, apparently bioclastic, and is intimately mixed with shale; unit appears to have been a shale and carbonate breccia or to have recrystallized in intersecting stringers - - - - - 399.3-405.0

See B. 58, 1980, C. Renard for formation assignments

Includes Brassfield-age rocks →

Ordovician System, according to CBR 12/20/70 on basis of conodonts;
Magnaketa Group:

has not Brassfield
unconformity;
does have
4 ft Brassfield

25. Shale, grayish-green, containing few bands of gray fine-grained dolomite - - - - - 405.0-408.3
26. Shale and dolomite, intimately mixed, fossiliferous, much as in unit 24, but unit doesn't appear so much to have been brecciated as it consists of coarser biofragments - - - - - 408.3-418.7
27. Shale, mostly gray; has gradational patches of dolomitic shale and shaly dolomite; bottom 1 to 2 ft. appear to have been brecciated - - - - - 418.7-427.3
28. Dolomite, tannish-gray, very coarse-grained, fossil-fragmental, vuggy; has some intimate admixtures, bands, and breccia of dark-gray to green shale - - - - - 427.3-435.3
29. Shale, gray-green, containing admixture of gray, medium-grained dolomite, highly fossiliferous, the fossils being coarse and of obviously Ordovician vintage - - - - - 435.3-443.5
30. Shale and dolomite, much like that of unit 29 but in about equal abundance and in few ft. intervals of alternating aspect; from top down, approximately, intimate, even mixture; dolomite dominant; dolomitic shale; granular dolomite; dolomitic shale and shaly dolomite; granular dolomite; and approximately medium-bedded shale having granular dolomitic admixtures and granular dolomite; core not seen 445.2-445.8; to total depth - - - - - 443.5-480.0

INDIANA GEOLOGICAL SURVEY

*Charles Pollock
C. D. Mailha Jr.
file with through*

LOG OF HOLE NUMBER: 169LANDOWNER: Yarnelle, Joe W. DATE STARTED: June 26, 1967
in the center ofLOCATION: COUNTY Wabash1/4 of the 1/4 of Section 55, TOWNSHIP 27 N. RANGE 6 E.,

ELEVATION _____ HOW DETERMINED _____

Set 23 ft. of 3" NX pipe

Completed: July 21, 1967

FROM	TO	RUN NO.	BIT BOX	Percent Recovery	MATERIAL AND REMARKS
0	3				soil
3	10				clay
10	22				sandy clay--sand and gravel
22	23				chert
23	26	1	1		chert
26	40		2		limestone with 30% chert
40	60	2	3-4		limestone with 30% - 40% chert
60	70	3	5		shale, blue green limish
70	80	4	6		shale, blue sandy hard
80	100	5	7-8		shale, blue sandy hard
100	120	6	9-10		shale, blue sandy hard
120	140	7	11-12		shale, blue sandy hard
140	160	8	13-14		shale, blue sandy hard
160	180	9	15-16		shale, blue sandy hard, more sandstone-limish little shale
180	200	10	17-18		shale, blue sandy hard, more sandstone-limish little shale
200	220	11	19-20		Dolomite, more sandstone limish little shale
220	240	12	21-22		dolomite--sandstone

Section 10. Log of part of core from Indiana Geological Survey drill hole 169, Wabash County, Ind. (J. B. Richardville Reserve 55, 2,080 ft FSL, 2,700 ft FEL, T. 27 N., R. 6 E.). Altitude, 752 ft. (R.H.S., November 1968). (SEK4N1E4SW4E 16-27N-6E)

Silurian System:	Bull 58, C. Rexroad, 1980	Depth (ft)
Limberlost Dolomite, 26.9 ft:		
1. Dolomite, mostly grayish-tan but variable in patches of solid tan to thinly colored laminated, to prominently gray and tan mottled, mostly fine-grained; has some somewhat irregular dark partings		288.9-315.8
Salamonie Dolomite, 50.8 ft:		
2. Dolomite, whitish-gray, fine- to medium-grained, finely vuggy, pure, biofragmental; has few stylolites; core not seen from 330.0 to 331.9 and 336.0 to 336.6 ft		315.8-339.4
3. Dolomite, pale-grayish-tan, in part vermiform-mottled with gray; very fine grained, nearly earthy		339.4-346.1
4. Dolomite, gray, fine-grained; has few somewhat stylolitic partings		346.1-357.9
5. Dolomite, whitish-gray, mostly like that of unit 2, pure, but bottom 2.5 ft is gray, medium grained, biofragmental, and less pure; conodonts include <i>Dapsilodus obliquicostatus</i> in bottom 1.8 ft .		357.9-366.6
Cataract Formation, 9.4 ft:		
Stroh Member, 5.3 ft:		
6. Dolomite, greenish-gray, very argillaceous to shaly, fine-grained, grading down into gray fine-grained argillaceous dolomite; conodonts include <i>Dapsilodus obliquicostatus</i>		366.6-371.1
7. Dolomite, gray with some tan bands, fine-grained to dense, and very pyritic .		371.1-371.9
Undifferentiated as to member, 4.1 ft:		
8. Interbedded green shale and fine-grained argillaceous dolomite grading down into gray fine- to medium-grained dolomite containing irregular stringers of shale; conodonts include <i>Distomodus kentuckyensis</i> and <i>D. stenolophatus</i>		371.9-376.0
Ordovician System:		
Maquoketa Group, 104.0 ft cored:		
9. Dolomite, light-gray, fine-grained, somewhat saccharoidal, finely vuggy, rather pure, but has some abundance of faint to clearly distinct, somewhat irregular dark laminae; sparsely glauconitic		376.0-388.3

Log of Core from Indiana Geological Survey Drill Hole 169
Joe W. Yarnelle Farm (J. B. Richardville Reserve 55
2080 ft. SL^ 2700 ft. EL^ T. 27 N.^ R. 6 E.)
Wabash County^ Indiana.
Elevation^ 752 ft.
Robert H. Shaver^ November 27^ 1968

Unit	Description	Depth	
	Silurian System		
	Wabash Formation^ Liston Creek Limestone Member^ 37.3 ft. cored:		
1	Limestone^ light-gray^ mostly very fine-grained^ very cherty; chert is in small to medium^ irregular nodules that consist either wholly of chert of white^ tripolitic aspect or of that surrounding fresh^ white to grayish blue centers; in patches the fine-grained limestone is actually a matrix containing medium to coarse^ biofragmental grains; many thin^ wavy dark shale laminae associated especially with abundant chert nodules^ which become sparse in lower few ft.; from top of coring	22.0	55.0
2	Limestone^ gradational with unit 1^ but lacks chert and abundant laminae and has more coarse fragments; has sparsely scattered glauconite	55.0	58.7
3	Limestone^ gray to yellow-brown (lower half)^ fine-grained^ very glauconitic; unit is the Red Bridge Limestone Bed	58.7	59.3
	Wabash Formation^ Mississinewa Shale Member^ 124.7 ft.:		
4	Dolomite^ gray^ some being pale yellow^ very fine-grained^ earthy^ argillaceous^ probably worm-bored; yellow parts are few inches to a foot thick^ suggesting oxidation and exposure as does the yellow part of unit 3	59.3	70.0
5	Limestone^ very light gray^ very fine-grained^ earthy^ possibly siliceous; lowest inch is a fine-pebble carbonate conglomerate	70.0	71.3
6	Dolomite (and some limestone)^ gray^ some being pale yellow in upper 10 ft.^ as in unit 4; in patches as much as 3 ft. thick and in alternating intervals of a few feet is limestone of coarse biofragmental aspect or such limestone in dolomite matrix^ suggesting fingers of reef-detrital material^ at least in interval 126.0-129.0; core not seen 88.0-88.8 and 99.0-101.1	71.3	164.9
7	Dolomite (and some limestone)^ as in unit 6; limestone is tannish gray^ medium grained^ less abundant than dolomite in intervals less than 1 ft. thick; units 7 and 8 are transitional between Mississinewa and Louisville lithology	164.9	183.7
	Louisville Limestone^ 81.9 ft..		
8	Limestone (and some dolomite)^ as for unit 7 but limestone (in coarser granularity than dolomite) here dominant; core not seen 186.0-186.8	183.7	189.7
9	Limestone and dolomitic limestone^ gray-taxi^ fine- to medium-rained^ slightly pyritic; has dark-colored^ irregular to stylolitic^ laminae	189.7	198.0
10	Limestone^ gray and tan mottled^ medium-grained; has few stylolitic partings	198.0	202.3

11	Limestone^ mostly prominently mottled in tan contrasting with very light tan with gray^ and tan with tan^ mostly very fine grained^ lithographic in small part; has incipient nodular aspect in part and stylolitic and other partings; has appearance in part of being constituted at one time of breccia of partly consolidated carbonate-mud fragments; has some larger bioclastic grains and areas of coarse recrystallization	202.3	223.6
12	Dolomitic limestone (upper few ft.) and dolomite^ mostly strikingly mottled gray and tan and shades of tan; middle few ft. (233.6-238.8) especially are nodular as brought about by abundance of slack^ shaly^ very irregular laminae	223.6	243.8
13	Dolomite^ tannish-gray^ very fine-grained^ earthy^ argillaceous; has abundance of black^ somewhat wavy laminae; has some vermiform markings	243.8	250.0
14	Dolomite^ mottled gray and tan and shades of tan^ also light brown^ nonmottled^ mostly fine-grained; some mottling is striking^ coarse; has some dark-colored^ irregular partings producing nodular aspect in part; has brecciated zone at 252.7-253.5	250.0	265.6
	Waldron Formation^ 23.3 ft.:		
15	Dolomite^ gray to dark-gray and tan^ somewhat color-banded^ very fine-grained^ argillaceous^ nodular; has great many black^ irregular shaly partings associated with nodular aspect	265.6	288.9
	Salamonie dolomite^ 99.4 ft.?:		
16	Dolomite^ mostly grayish-tan but variable in patches of solid tan to thinly colored laminated^ to prominently gray and tan mottled^ mostly fine-grained; has some dark-colored^ somewhat irregular partings; unit corresponds to the so-called Brown Niagaran of much drillers' usage in the Michigan Basin	288.9	315.8
17	Dolomite^ whitish gray^ fine- to medium-grained^ finely vuggy^ pure^ biofragmental; has few stylolites; unit corresponds to so-called White Niagaran of Michigan Basin usage and to much of the Laurel Member (of Salamonie); core not seen 330.0-331.9 and 336.0-336.6	315.8	339.4
18	Dolomite^ pale grayish-tan^ vermiform-mottled with gray in part^ very fine-grained^ nearly earthy	339.4	346.1
19	Dolomite^ gray^ fine-grained; has few somewhat stylolitic partings	346.1	357.9
20	Dolomite^ whitish-gray^ mostly like that of unit 17^ pure^ but bottom 2½ ft. is gray^ medium-grained^ biofragmental^ less pure	357.9	366.6
21	From top down^ approximately greenish-gray^ earthy^ very fine-grained dolomitic shale; gray^ very fine-grained^ argillaceous dolomite; gray^ fine-grained dolomite having few dark-colored shaly partings; gray^ fine-grained dolomite interbedded with green^ pyritic^ glauconitic shale^ both shale and dolomite containing breccias or stringers of the other; and gray^ medium-grained vuggy^ mostly pure dolomite having some coarse breccia of both dolomite and shale; units 21-23 could be Ordovician in age but supposed here to correspond to both the Osgood Member (wholly or in part) and Brassfield Limestone of southern Indiana and to the Cataract Group (in part) of the Michigan Basin	366.6	376.0
22	Dolomite^ light-gray fine-grained^ somewhat saccharoidal^ finely vuggy^ rather pure^ but has some abundance of faint to clearly distinct^ somewhat irregular^ dark-colored laminae; sparsely glauconitic	376.0	388.3
	Brassfield Limestone?^ 11.0 ft.:		

23	Dolomite^ much like that of unit 22 but has more brownish-gray color^ coarser grained (medium)^ on the obviously biofragmental^ and has more and more prominent shaly partings; glauconitic; few inches of shaly breccia at base; both units 22 and 23 are odd appearing dolomite to be either of certain Ordovician or Silurian age^ and Petroleum Section picks Ordovician top in 360-380 interval; needs faunal determination	388.3	399.3
	Ordovician system		
	Cincinnatian rocks of unidentified to formation^ 80.7 ft. cored:		
24	Shale^ dolomitic shale^ and dolomite^ basically grayish-green; dolomite is gray^ fine-grained^ apparently bioclastic^ and is intimately mixed with shale; unit appears to have been a shale and carbonate breccia or to have recrystallized in intersecting stringers	399.3	405.0
25	Shale^ grayish-green^ containing few bands of gray fine-grained dolomite	405.0	408.3
26	Shale and dolomite^ intimately mixed^ fossiliferous^ much as in unit 24^ but unit doesn't appear so much to have been brecciated as it consists of coarser biofragments	408.3	418.7
27	Shale^ mostly gray; has gradational patches of dolomitic shale and shaly dolomite; bottom 1 to 2 ft. appear to have been brecciated	418.7	427.3
28	Dolomite^ tannish-gray^ very coarse-grained^ fossil-fragmental^ vuggy; has some intimate admixtures^ bands^ and breccia of dark-gray to green shale	427.3	435.3
29	Shale^ gray-green^ containing admixture of gray^ medium-grained dolomite^ highly fossiliferous^ the fossils being coarse and of obviously Ordovician vintage	435.3	443.5
30	Shale and dolomite^ much like that of unit 29 but in about equal abundance and in few ft. intervals of alternating aspect; from top down^ approximately^ intimate^ even mixture; dolomite dominant; dolomitic shale; granular dolomite; dolomitic shale and shaly dolomite; granular dolomite; and approximately medium-bedded shale having granular dolomitic admixtures and granular dolomite; core not seen 445.2-445.8; to total depth	443.5	480.0