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STRATIGRAPHY OF THE CAMBRIAN AND LOWER ORDOVICIAN ROCKS IN OHIO

by

A. Janssens

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STRATIGRAPHY OF THE CAMBRIAN AND LOWER ORDOVICIAN ROCKS IN OHIO

by

A. Janssens

ABSTRACT

This subsurface study, based on examination of cuttings from 111 wells, shows that Cambrian and Lower Ordovician sediments of Ohio consist of dolomite and sandstone, with minor amounts of shale, siltstone, and limestone.

The basal Cambrian sediments are assigned to the Mt. Simon Sandstone, a fine- to coarse-grained conglomeratic sandstone that ranges in thickness from less than 100 feet locally in central Ohio to 350 feet in western Ohio. Local Precambrian relief exceeding 300 feet affects the thickness of the sandstone. The Eau Claire, overlying the Mt. Simon in western Ohio, consists of glauconitic fine-grained sandstone and small amounts of shale and dolomite and ranges in thickness from an estimated 200 feet in Lucas County to 562 feet in Defiance County. The Rome Formation in eastern Ohio is laterally equivalent to the Eau Claire. Dolomite and eastward-thinning sandstone make up the Rome, which thickens from 190 feet in Fayette County to 715 feet in Columbiana County. The Rome is mapped as far west as a persistent basal Rome oolitic dolomite extends. Conasauga sediments, consisting of siltstone, sandstone, limestone, and dolomite, overlie the Rome Formation. Shale predominates in south-central Ohio. From a maximum thickness of 439 feet in Highland County the formation thins to 40 feet in Ashland County. The Conasauga is mapped as far west as the Rome.

The Eau Claire and Conasauga Formations are overlain by the Kerbel Formation (new name). The name Kerbel replaces Franconia-Dresbach and Maynardville of previous nomenclatures. The formation is made up of upward-coarsening sandstone of probable deltaic origin and has a maximum thickness of 170 feet in Wood County; it is absent in western and southeastern Ohio.

The Kerbel or, in its absence, the Eau Claire and Conasauga Formations, is overlain by the Knox Dolomite. The Rose Run sandy zone is a blanket sandstone within the Knox of eastern Ohio, but is truncated toward the west by the regional Knox unconformity. Thickness of the Knox ranges from 0 to 1,364 feet from Ottawa to Clermont County. The pronounced thinning of the Knox toward the north is in part depositional and in part the result of post-Knox erosion over Woodward's Waverly arch. Formations older than the Knox do not thin across this arch.

In southern Ohio no reliable criteria are as yet available to delineate the boundary between the Cambrian and Ordovician; it is presumed to lie within the Knox.

Numerous shows of oil and gas have been recorded from the Knox Dolomite, and production has been obtained in Licking, Holmes, Morrow, Marion, Seneca, Huron, Erie, Wayne, and Medina Counties. Especially favorable areas for production are the two or three tiers of counties south of Lake Erie and the subcrop belt of the Rose Run sandstone below the Knox unconformity.

INTRODUCTION

Cambrian and Lower Ordovician rocks, bounded below by the Precambrian basement and above by the regional Knox unconformity, form an extensive deposit on the midcontinent craton. They are covered by younger sediments except to the north, adjacent to the outcropping Precambrian rocks of the Canadian shield in Iowa, Minnesota, Wisconsin, and Michigan, and to the east, in the Appalachian Valley and Ridge province from New England southwestward to Alabama. In Ohio the top of these rocks, which are known also as the Sauk sequence, ranges in depth from about 200 feet below sea level at Cincinnati to more than 10,000 feet below sea level near Marietta.

The informal term Sauk sequence was first applied to Cambrian and Lower Ordovician rocks by Sloss, Krumbein, and Dapples (1949) as an operational name for use in interregional facies analysis. The name is derived from Sauk County, Wisconsin, and was applied to the sequence of Cambrian and Lower Ordovician rocks from the top of the Baraboo Quartzite (Precambrian) to the top of the Oneota Dolomite (Lower Ordovician) in southern Wisconsin.

In much of the midcontinent the nomenclature applied to the Sauk rocks is that used in Wisconsin and the surrounding area, where the formations comprising the sequence have their type sections. Until the early 1960's this nomenclature was used also in Ohio, where most wells penetrating the Sauk rocks had been drilled in the old Trenton fields in the western part of the state. With few exceptions, the Wisconsin nomenclature appeared to fit the rocks moderately well.

Following the publication of a statewide gravity

map (Heiskanen and Uotila, 1956), which showed several pronounced gravity anomalies in south-central Ohio, a number of Precambrian wells were drilled in that area to test the nature of the anomalies. A few years later oil was discovered in the Knox Dolomite (a thick dolomite immediately below the Knox unconformity) in Morrow County in central Ohio, setting off active exploration throughout the central and eastern parts of the state. This drilling activity indicated that the stratigraphy of the Sauk rocks in south-central Ohio was different from the Sauk stratigraphy in western Ohio. The nomenclature used for the Sauk rocks in Virginia and Tennessee was thought to fit the Sauk rocks of south-central Ohio better than did the Wisconsin nomenclature, and the latter was abandoned in favor of the former.

The author began a sample study of the Knox Dolomite in northeastern Ohio to determine the stratigraphy of the Rose Run sandstone, which lies within the Knox and which at the time had not been recognized by the Ohio Division of Geological Survey. Following completion in 1965 of a gas-producing well in Holmes County in this sandstone, the unit was the exploration target of several wells drilled in eastern Ohio. Among the first wells studied for this report were two in Ashtabula County that penetrated the entire Sauk. It proved impossible to subdivide the Sauk in these two wells according to the newly introduced nomenclature; as a result the decision was reached to study the Sauk sequence in all Precambrian wells in Ohio for which samples were available.

There was considerable need for a study of this kind. Relatively little was known about the extent and significance of regional changes in lithology of the pre-Knox clastics, of which the equivalent in eastern Ohio is chiefly dolomite, that extend from Indiana into western Ohio. Among these clastics is the basal Mt. Simon Sandstone, which since 1967 had been drilled in several wells for the purpose of storing liquid industrial wastes. A regional study would reveal the thickness pattern of this sandstone and the effect of Precambrian topography on its thickness. The manner in which drillers were subdividing the Knox Dolomite indicated that several different criteria were being used to locate the Cambrian-Ordovician boundary, and that miscorrelations were being made as a result of this. Finally, published regional reports, with the exception of those of Cohee (1945, 1948) and Fettke (1948), which were limited in geographic scope as far as Ohio is concerned, have been based on second-hand information. Most reports published since 1960 have to a large extent emphasized the responses of the Sauk rocks to mechanical logging rather than concentrating on the lithologies themselves, which ultimately determine the responses.

The aims of this study were to determine the lithology, thickness, and regional stratigraphic relations of the Sauk rocks, to modify existing nomenclature where necessary, and to reconstruct the geologic history recorded by the Sauk rocks. Figure 1 illustrates the stratigraphic picture that has emerged. It is hoped that the conclusions of this report will provide a stratigraphic framework for companies and individuals interested in exploring the Sauk rocks for economic purposes.

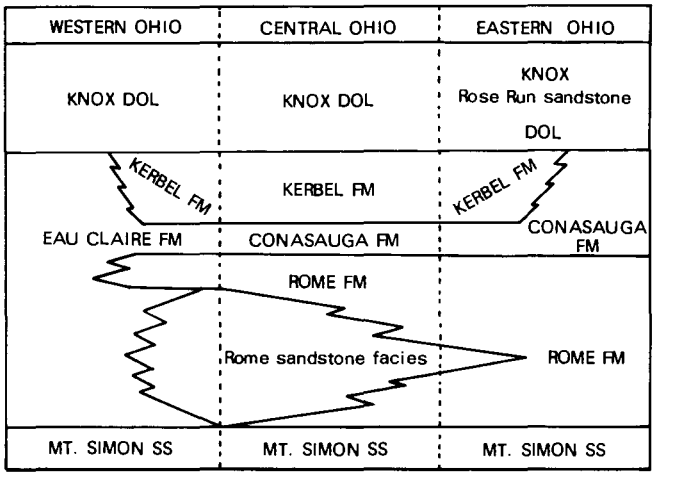

FIGURE 1.—Stratigraphic column of the Sauk sequence in Ohio.

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Duane E. Moredock, Amoco Production Co. (formerly Amerada Hess Corp.), shared with the writer his thorough knowledge of the Sauk lithologies. Both Moredock and Jerald D. Huffman, Hortin and Huffman (formerly Ferguson and Bosworth, Inc.), exchanged with the writer log crossplots of the Rose Run sandstone section.

Thomas C. Buschbach, Illinois State Geological Survey, and George V. Cohee, U.S. Geological Survey, made helpful suggestions regarding the nomenclature. Buschbach also examined the cuttings of a well in Erie County to compare the sections in Ohio and Illinois.

The writer acknowledges the many consultants and personnel of exploration companies who made mechanical logs available for this study.

STUDY METHODS

All conclusions drawn in this report are based on well samples examined by the author. Seventy-four Precambrian (including one in Kentucky and two each in Michigan and Ontario), 11 Mt. Simon, and 26 Knox tests were described in detail. The described Knox sections are in eastern Ohio, where active exploration is continuing. In addition, formation tops were determined from the samples of 16 Precambrian and 3 Mt. Simon tests; no detailed descriptions were made for these wells. Whenever possible, formation tops derived

from the samples were adjusted to true depth with the aid of gamma ray-neutron logs.

The sample descriptions are given in appendix A and are summarized in appendix B, which shows also the data used to draw the structure map on the Knox Dolomite (pl. 9). Most elevations used in preparation of this map were derived from gamma ray-neutron logs.

The samples were studied under a stereozoom microscope with a maximum magnification of 30X and outfitted with a reticle permitting direct grain-size measurements of particles as small as 0.03 mm in diameter. To determine the size of insoluble residue fines in carbonates, the samples were placed in a dish with 10 percent HCl and dissolved on a hot plate.

TABLE 1.—*Size classification used in this report (modified from Dunbar and Rodgers, (1957, p. 161)*

Grade limits (mm)	Descriptive name		
	quartz and other non-carbonate clastics	Sauk dolomite	
4	fine pebbles	not recognized	
2	very fine pebbles	not recognized	
1	very coarse sand	not recognized	
0.5	coarse sand	coarsely crystalline	
0.25	medium sand	medium crystalline	
0.125	fine sand	finely crystalline	
0.06	very fine sand	very finely crystalline	
0.004	silt	dolosiltite	microcrystalline
	clay	dolomicrite	microcrystalline

The grain- and crystal-size classification used in this report (table 1) is a slightly modified version of the Wentworth scale shown by Dunbar and Rodgers (1957, p. 161). The limiting sizes of clay and fine silt and their dolomite equivalents (dolomicrite and dolosiltite, respectively) could not be measured with the microscope used in this study and were therefore estimated. The primary descriptive term for clay- and silt-sized dolomite is "microcrystalline," but the author believed it would be useful to subdivide this category further, even if the subdivision could be based only on visual estimates.

Limestone, which is volumetrically unimportant in the Sauk in Ohio and which occurs only in a limited area in south-central Ohio near the lower boundary of the Knox Dolomite, is classified as micrite (or lithographic limestone), calcisiltite, or bioclastic limestone.

Significant advances have been made in carbonate petrography in the past 15 years, especially in descriptive techniques that attempt to relate inferred environments of deposition directly to lithological classifications, but in order to use these techniques to their full advantage it is nearly always necessary to examine the carbonates in thin section or to study acetate peels. This is especially true for limestone that has been dolomitized postdiagenetically, as the author believes is the case for most dolomite in the Sauk of Ohio.

Of the various types of dolomite, the microcrystalline variety is by far the most abundant lithology in the Sauk formations that consist wholly or in part of dolomite. The coarser types of dolomite are restricted stratigraphically mostly to the Knox Dolomite.

Oolites and pellets occur throughout the Rome Formation and are found scattered throughout the Knox. As used in this report, an "oolite" is a spherical carbonate grain with concentric or radial structure. When the carbonate in which they occur is sandy, the nuclei of many oolites consist of fine sand grains. The term "pellet" is used in this report for a rounded grain of carbonate, spherical to ovoid, without internal structure. In a few cases rounded carbonate grains have an internal structure that is imperfectly that of an oolite or that of a pellet with a semblance of concentric layering. These grains, called "superficial oolites" by some workers, have been included with the pellets. The sizes of oolites and pellets have been indicated in the sample descriptions, but no size limitations have been placed on either.

Oolites and pellets are generally differentiated in this report according to the amount of matrix material that surrounds them. They are mud supported if they "float" in a matrix of microcrystalline dolomite, and grain supported if they occur abundantly enough to support each other.

In examining well samples under a binocular microscope there is no satisfactory method for distinguishing in each case between rounded pellets and subrounded carbonate clasts or between subangular intraclasts and corroded or anhedral crystals. The color and size of the particles comprising pellets, intraclasts, and crystals appear very similar to those of the matrix under reflected light; as a result, boundaries between aggregates and the matrix tend to be blurred. When the author was reasonably certain of the presence of true intraclasts in a sample, their size is indicated (for example, a medium-grained dolomite). Dolomite of this type is apparently not common in the Sauk, but its rarity may be more imagined than real owing to the limitations of the binocular microscope.

The term "sucrosic" is used in this report for a postdiagenetically altered limestone or dolomite characterized by

> well-developed rhombs of [calcite or] dolomite of approximately uniform size resting one against the other with point contact and, likewise, commonly separated by exceptionally large as well as small pore openings (Bissell and Chilingar, 1967, p. 166).

Uphole cavings are entirely absent in some sample sets and in others constitute more than 90 percent of the samples. Most commonly they consist of Upper Ordovician shale and limestone and are lithologically sufficiently distinct from Sauk rocks to be only a nui-

sance. Their presence is misleading in places where the Conasauga Formation consists of shale and bioclastic limestone. As a rule, cavings are logged in sample descriptions only when they are difficult to distinguish from samples that are in place.

The size of sample chips ranges from fine-grained sand to pebbles. Some cable-tool and most air-rotary samples are the size of fine-grained sand, making it impossible to give a meaningful carbonate description. The presence of these fine samples is generally indicated in the sample descriptions.

PREVIOUS WORK

Previous work through 1961 has been summarized by Calvert (1962) and is therefore treated summarily in this report. The pioneering studies by Bassler (1911), Condit (1913), Wasson (1932), and Stout and Lamey (1940) are now primarily of historical value; all samples but those studied by Condit have been redescribed for this report. The study by Wasson is of special interest in that it used Wisconsin nomenclature for the first time in Ohio.

In a valuable study centering on the Michigan Basin, Cohee (1945, 1948) traced Cambrian and Lower Ordovician rocks from Wisconsin to northwestern Ohio (Putnam, Wood, and Wyandot Counties). All but one of his correlations for the well (Ohio Oil #1 Barlage, fig. 2) in Putnam County were accepted by Fettke (1948), who indicated that the presence of glauconite was the main criterion used to distinguish between the clastics of the Eau Claire (glauconitic), Dresbach (nonglauconitic), and Franconia (glauconitic).

Gutstadt (1958), in a study of the Cambrian and Ordovician of Indiana, divided the Sauk in northeastern Indiana into (ascending) Mt. Simon Sandstone, Eau Claire Formation, and Knox Dolomite, including in the last possible Franconia equivalents. This division is used also by Becker and others (1970).

Starting in the mid-1950's, the type sections of the Sauk formations in Wisconsin and surrounding states were being critically reexamined. In this, as in other parts of the stratigraphic column, some type sections had been defined more on fossil content than on lithology, making it desirable to redefine these units and to make changes in the nomenclature where necessary. However, it is apparent from the literature (Bell and others, 1956; Ostrom, 1966, 1967) that it may be some time yet before a new nomenclature for the Sauk rocks of the upper Mississippi Valley is agreed upon. A classification proposed by Ostrom (1966) and adopted by the Wisconsin Geological Survey (Ostrom, 1970) is shown in figure 3 and may be compared with that used by Cohee (1945; fig. 2 in this report) for the trend of probable future changes.

A stimulating paper by Woodward (1961) offered several novel ideas on the structural geology of Ohio and Kentucky. These ideas were founded on interpretation of sample descriptions made available to him by a number of people, among them Shearrow, who was with the Ohio Division of Geological Survey at the time and who provided all Ohio descriptions which used Wisconsin nomenclature. Woodward's ideas as they relate to Ohio are discussed elsewhere in this report.

	Formation	Thickness (ft)
Lower Ordovician	Oneota Dolomite (top at 2,030 ft)	33
Upper Cambrian	Trempealeau Formation	502
	Franconia Sandstone	25
	Dresbach Sandstone	10
	Eau Claire Sandstone	350
	Mt. Simon Sandstone	292
	Jacobsville? Sandstone	135+
Precambrian		

FIGURE 2.—Cambrian and Lower Ordovician formations (Cohee, 1945; thickness figures from Fettke, 1948) in the Ohio #1 Barlage in Putnam County, Ohio.

Important changes in the nomenclature of the Sauk and overlying Middle Ordovician rocks of Ohio were made when the Ohio Division of Geological Survey adopted the nomenclature used in the Appalachian area of Virginia (Calvert, 1962). According to Calvert, Ohio's greater proximity to the Appalachian area than to the upper Mississippi Valley and the fact that most Paleozoic rocks of Ohio have been correlated with those of the Appalachian area made it probable that the Sauk rocks of Ohio resemble their equivalents in the Appalachian area more than those in the upper Mississippi Valley. In his discussion of the history of sub-Trenton nomenclature in Ohio, Calvert (1962, p. 9) remarked that no previous worker in Ohio had traced the Sauk rocks to their type sections in the upper Mississippi Valley. Although Cohee (1945) could reasonably have claimed to have done this, Calvert commented that upper Mississippi Valley names in Ohio have been "applied more on the strength of tradition than on actual lithologic evidence." The evidence gathered in this report shows that the substance of the quote is inaccurate if it referred to western Ohio, where most previous work had been done.

The nomenclatural system introduced by Calvert

System	Group	Formation	Member	Stage	Series
Ordovician	Prairie du Chien	Oneota	Sunset Point		Canadian
Upper Cambrian		Jordan	Van Oser	Trempealeauan	St. Croixan
			Norwalk		
		St. Lawrence	Lodi		
			Black Earth		
	Tunnel City	Mazomanie / Lone Rock	Reno	Franconian	
			Tomah		
			Birkmose		
	Elk Mound	Wonewoc	Ironton	Dresbachian	
			Galesville		
		Eau Claire			
		Mt. Simon			

FIGURE 3.—Cambrian nomenclature adopted in Wisconsin (from Ostrom, 1970, p. 7).

(1962) is shown in figure 4. The Maynardville Dolomite is subdivided in Calvert's text into the Low Hollow Limestone and Chances Branch Dolomite members in ascending order. With few exceptions this is the same nomenclature used by Miller and Fuller (1954) in their report on the Rose Hill district in Lee County, Virginia. Calvert (1962) traced the Sauk rocks of the Rose Hill district through eastern Kentucky, where a number of deep tests had recently been drilled, into Fayette County, Ohio, where he used the Kewanee #1 Hopkins as a key well.

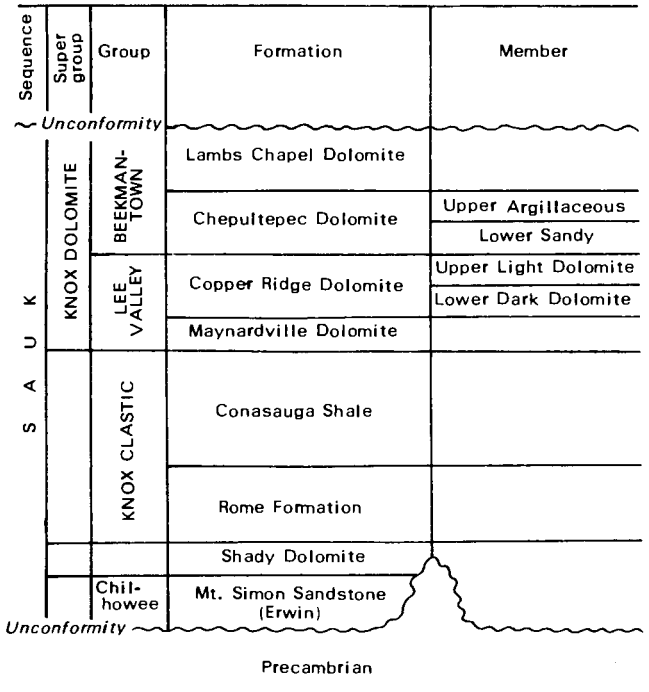


FIGURE 4.—Sauk nomenclature introduced in Ohio by Calvert (1962).

The central concepts underlying Calvert's report are that the Sauk of Ohio resembles the Sauk of the Appalachian area, as exemplied by the Rose Hill district in Virginia, and that the section in the Kewanee #1 Hopkins can be used as a type section for Ohio. However, the evidence obtained from the numerous additional wells drilled since 1961 indicates that, in terms of gross sub-Knox Sauk lithology, Ohio can be subdivided into four areas, in only one of which do the Sauk rocks resemble those of the Rose Hill district. Tracing of the Sauk section in all directions but southward from the #1 Hopkins shows that significant changes take place within two or three counties and that at greater distances there is little or no resemblance to the section in this well.

The criteria for differentiating the Sauk formations were adopted by Calvert from those used by Miller and Fuller in the Rose Hill district, although Thomas (1960), who preceded Calvert in the use of Appalachian nomenclature for the Sauk section of the recently drilled deep wells in eastern Kentucky, had obviously applied different criteria (table 2). Thomas had also shown evidence suggesting that a deep basin came into existence in eastern Kentucky prior to Knox deposition, indicating the strong possibility of facies changes in some of the formations.

A comprehensive report by McGuire and Howell (1963) on the geology of Cambrian and pre-Trenton Middle Ordovician rocks of Kentucky contains a considerable amount of valuable information. However, as shown in table 2, the report contains internal strati-

TABLE 2.—*Comparison of Conasauga and Rome tops (depth in feet) in eastern Kentucky*

	Thomas (1960)		Calvert (1962)		McGuire and Howell (1963)				Harris (1964)	
					Appendix A		Appendix B			
	Conasauga	Rome	Conasauga	Rome	Conasauga	Rome	Conasauga	Rome	Conasauga	Rome
United Fuel Gas #2 Knuckles, Bell County	8448	8764	8720	9006	NT[1]	8450	8560[2] 8448[3]	8950[2] 8764[3]	8440	9835
United Fuel Gas #1 Williams, Breathitt County	6662	6870	6775	6950	NT	6675	6650[2] 6662[3]	6870[2] 6870[3]		
United Fuel Gas #1 Stamper, Carter County	4580	4650	4564	4678	NT	4608	4580[3]	4650[3]		
United Fuel Gas #28 Fordson Coal, Leslie County	7187	7506	7320	7504	NT	7190	7197[2] 7187[3]	7480[2] 7506[3]	7185	8260
Thomas #1 Adams, Lewis County	NT	3620	3620	3740	NT	3620	3620[3]	3685[3]		

[1] Not tabulated
[2] Sample tops by Mrs. Louise B. Clarkson
[3] Sample tops by United Fuel Gas Co. geologists

graphic disagreements which are not discussed or explained in the text.

PRECAMBRIAN ROCKS

Precambrian samples from 80 wells in Ohio were available for this study (table 3). Of these, 24 have been described by McCormick (1961) in a detailed petrographic study. The remaining 56 are described in this report. Rock-type designations from these descriptions should be considered tentative until the samples have been studied petrographically.

The information obtained in this report supports the suggestion made by Bass (1960), McCormick (1961), and Lidiak and others (1966) that two major Precambrian lithologic provinces with a fairly well-delineated common boundary exist in western Ohio (fig. 5). Bass (1960) studied samples from 13 Precambrian wells (table 3) and found that east of a line running slightly west of north from western Fayette County through western Hancock County, the Precambrian basement is of high metamorphic grade and contains marble, whereas west of this line the basement consists of lower grade metamorphosed and igneous rocks. He considered this lithologic boundary the subsurface extension of the Grenville front, which is exposed to the northeast in Canada, where it marks the boundary between the Grenville province to the east and the Superior province to the west. Regionally, the Grenville province is characterized by the dominance of metamorphics and the Superior province by the dominance of igneous and sedimentary or metasedimentary rocks. Rocks of the Grenville province generally are younger than one billion years, whereas rocks of the Superior province are generally older than that.

McCormick (1961) examined the Precambrian in 24 wells and, as did Bass, noted the existence of two lithologic provinces.

Lidiak and others (1966) dated the Precambrian rocks in 18 wells in Michigan, Ohio, West Virginia, and Indiana, and additional samples from wells in Illinois, Iowa, Wisconsin, and Missouri. From the results they drew the location of the Grenville front through western Ohio about as shown by Bass (1960).

Rudman and others (1965) apparently incorporated in their study most of the age determinations made for Ohio, Michigan, and Indiana by Lidiak and others (1966) and on the basis of these data drew the Grenville front from the northeastern corner of Indiana to the southwestern tip of that state. They stated (1965, p. 899) that they located the front almost along a line predicted by McLaughlin (1954), who extended the boundary southward from Canada primarily on the basis of an alignment of earthquake epicenters and regional structures in Paleozoic rocks.

Lithologic evidence obtained in this study supports the suggestion of the existence of two major lithologic provinces in Ohio and does not contradict the location of the Grenville front as postulated by Lidiak and others (1966, fig. 1). However, more samples must be dated before the questions of the exact location of the front and local lithologic anomalies within the two lithologic provinces can be settled. With additional information it may be possible to show the relationship, if any, between the Grenville front and the Lucas-Wood Counties monocline in northwestern Ohio (this report, p. 28) and between the front and the cryptovol-

canic structure near the common boundary of Adams, Highland, and Pike Counties (Bucher, 1933). These two local structures are late or post-Paleozoic in age and, if a relationship between either or both of them with the Grenville front can be established, it would show that the front remained structurally active during or after the Paleozoic.

The structure on the Precambrian in Ohio was mapped with 500-foot contours by Summerson (1962), who relied on data reported by McCormick (1961), supplemented with drillers' data. A more recent map was made by Owens (1967), who used 94 control points

FIGURE 5.—Generalized lithologies of Precambrian rocks (samples available), and approximate boundary between high-grade metamorphic rocks to the east and igneous and lower grade metamorphic rocks to the west.

and 100-foot contours. Except for details the maps are similar and show a high area in western Ohio, which Green (1957), mapping on the Middle Ordovician Trenton Limestone, named the Indiana-Ohio platform. In central Ohio there is an eastward-steepening dip toward the Appalachian Basin, and in northwestern Ohio the dip steepens northwestward toward the Michigan Basin.

The contact of the Precambrian with the Mt. Simon Sandstone and the relief of this surface are discussed in the following section.

TABLE 3.—*Precambrian well data*

Permit number	County	Well name	Lithology
4	Adams	Bailey	Granite
5	Adams	Covert	Granite
191	Ashtabula	Rhoa	Granite gneiss or granite
71	Auglaize	St. Marys	Granite or granite gneiss
3	Clark	Elcamere Farms	Rhyolite
D-2	Clark	Mattison	Limestone and granite or granodiorite[1,2]
2	Clark	Brown	Diorite
3	Clermont	Wikoff	Rhyolite
2	Clinton	Adams	Diorite[1]
5	Clinton	Van Pelt	Amphibolite[1]
7	Clinton	McVey	Amphibolite[1]
2053	Coshocton	Jefferson	Granite or granite gneiss
242	Delaware	Smith	Gneiss
269	Delaware	Lindsey	Gneiss
1	Delaware	Vance	Gneiss[2,3,4]
9	Delaware	Sprain	Gneiss
270	Delaware	Gregory	Gneiss
7	Erie	Sayler	Granite gneiss[1]
11	Erie	Krysik-Wakefield	Gneiss
2	Fayette	Wilson	Amphibolite, granite pegmatite[1,2,4]
4	Fayette	Barnes	Trachyte porphyry[1,2]
1	Fayette	Hopkins	Hornfels, amphibolite marble, pegmatite[1,2,4]
14	Franklin	Marble Cliff	Granite gneiss or granite
49	Fulton	Storeholder	Granite
782	Guernsey	Marshall	Granite gneiss, amphibolite[1]
140	Hancock	Harris	Granite gneiss or schist
152	Hancock	Drummelsmith	Quartzite
139	Hancock	Frazier	Quartzite
1222	Hocking	Hockman	Granite gneiss
11	Huron	Arting	Granite gneiss, schist[1,2,4]
76	Jackson	Woods	Biotite gneiss or schist
1604	Knox	Huffman	Granite gneiss
1468	Knox	Larimore	Gneiss
142	Lake	Perry	Chlorite schist
2057	Licking	Roberts	Granite gneiss
2252	Licking	Schmelzer	Hornblende schist
1826	Licking	Crowley	Granite gneiss
18	Logan	Johns	Rhyolite[1,2,5]
794	Lorain	Born	Granite gneiss[1]
3	Madison	Hume	Granite
8	Marion	Mitchell	Hornblende gneiss or schist
1201	Medina	Warner	Granite gneiss[1]
1143	Medina	Smith	Granite gneiss, marble[1,2]
141	Mercer	Center	Rhyolite
3	Miami	Walker	Trachyte-latite porphyry[1,2]
1	Miami	Levering	Granite[1]
1388	Morrow	McBee	Granite gneiss
2550	Morrow	Irey	Granite gneiss
12	Morrow	Myers	Granite gneiss or schist[4]
1681	Morrow	Shaver-Neff	Granite gneiss or granite
47	Morrow	Windbigler	Gneiss
33	Morrow	Henry	Granite gneiss or granite
1278	Noble	Ullman	Gneiss or schist
4	Pickaway	Croman	Gneiss or schist
2	Pickaway	Long	Marble, biotite gneiss, gabbro[1]
6	Pickaway	Miller	Biotite gneiss or schist
31	Putnam	Barlage	Granite[1]
448	Richland	Empire Reeves	Granite gneiss
431	Richland	Scott	Granite gneiss or granite
9	Ross	Clark	Granite gneiss or granite
77	Sandusky	Haff	Granite[1]
117	Sandusky	Avers	Granite gneiss
D-1	Sandusky	Bruns	Granite, amphibolite[1,2,4]
147	Sandusky	Kerbel	Indeterminate
212	Scioto	U.S. Steel	Gneiss[7]
128	Seneca	Stigamire	Amphibolite
12	Shelby	Nelson	Trachyte porphyry[1,2,6]
13	Shelby	Fogt	Rhyolite[1,2]
2	Union	Zenith	Schist
71	Wayne	Steiner	Biotite gneiss
1419	Wayne	Drake	Amphibolite
34	Williams	Kennerk	Rhyolite
229	Wood	Knauss	Granite or granite gneiss
D-6	Wood	Killian	Granite gneiss[1,2,4]
239	Wood	Asmus	Granite or granite gneiss
236	Wood	Smith	Granite or granite gneiss
72	Wyandot	Heck	Granite[1]
211	Wyandot	Eyestone	Granite
174	Wyandot	Bowen	Gneiss or schist
173	Wyandot	Frey	Granite

[1] Described by McCormick (1961)
[2] Described by Bass (1960)
[3] Described by Stout and Lamey (1940)
[4] Dated 8.6 - 9.8 X 10^8 years by Lidiak and others (1966)
[5] Dated 1.24 X 10^9 years by Lidiak and others (1966)
[6] Dated 1.28 X 10^9 years by Lidiak and others (1966)
[7] Dated 8.4 X 10^8 years by Hofmann and others (1972)

MT. SIMON SANDSTONE

The Mt. Simon Sandstone in Ohio consists of fine-grained to conglomeratic sandstone that unconformably overlies the Precambrian and underlies with gradational contact the fine-grained glauconitic sandstone of the Eau Claire Formation or dolomite of the Rome Formation.

The name Mt. Simon was first used by Ulrich (*in* Walcott, 1914, p. 354) for sandstone on Mt. Simon near Eau Claire, Wisconsin. At its type locality the Mt. Simon consists of unfossiliferous very fine- to very coarse-grained sandstone, about 215 feet thick, that unconformably overlies the Precambrian and that underlies with gradational contact the Eau Claire Formation (Ostrom, 1966, p. 20-26).

The Mt. Simon in northeastern Illinois has been described as a poorly sorted friable fine- to coarse-grained sandstone with a maximum thickness exceeding 2,800 feet (Buschbach, 1964, p. 25). In Indiana the formation has been described as a poorly consolidated fine- to coarse-grained sandstone (Gutstadt, 1958, p. 22) that thins eastward from 2,000 feet to 300 feet (Becker and others, 1970).

The Mt. Simon in Ohio consists of friable fine- to coarse-grained sandstone that in several places grades downward into conglomeratic sandstone or sandy conglomerate. In the samples the sandstone is generally poorly sorted, but cores show that individual beds tend to be well sorted. Medium-sized and larger sand grains are mostly rounded and frosted.

The color of the sandstone ranges from clear at the top to clear, pink, and yellowish pink at the base. The formation is stained dark brownish red in a few places.

The main body of the Mt. Simon is poorly consolidated, but siliceous cement is present in a few wells. Where the Mt. Simon is overlain by dolomite of the Rome Formation, the uppermost 10 to 30 feet may be dolomitic and may contain dark-brown or black oolites.

Glauconite is generally absent in the Mt. Simon, especially in eastern Ohio. In western Ohio the contact with the Eau Claire is placed at the base of a predominantly glauconitic sandstone section, and glauconite is therefore by definition absent in the uppermost part of the Mt. Simon in western Ohio. It is only sparingly present in the remainder of the formation and only in a few wells.

The base of the Mt. Simon in the Ohio Oil #1 Barlage in Putnam County has been drawn at 3,250 feet in this report. Previously, Cohee (1945) and Fettke (1948) showed the Mt. Simon in this well underlain by the Jacobsville Sandstone and drew the contact between these two formations at 3,242 feet. According to their interpretation, the base of the Jacobsville was not penetrated in the well. The Jacobsville is a Precambrian or Cambrian sandstone with a maximum thickness exceeding 1,100 feet in its type area on the northern peninsula of Michigan (Hamblin, 1958, p. 15-18). The base of the Mt. Simon in this report follows McCormick (1961, p. 48), who interpreted the section below 3,250 feet to consist of granite rather than of arkose as suggested by Cohee (1945).

In view of the interest in the Mt. Simon as a storage formation, permeability and porosity data from commercial core analyses of four Mt. Simon storage wells are shown in appendix C. Average porosity of the Mt. Simon in the four wells is about 13 percent.

Thickness of the Mt. Simon ranges from zero in the Kewanee #1 Long in Pickaway County to 350 feet in the Ohio Oil #1 Barlage in Putnam County (pl. 1). Regionally the formation has been found to thin from between 350 feet and 400 feet in western Ohio to less than 200 feet in the eastern part of the state. The information available at present indicates that along Lake Erie from Erie County in the west to Ashtabula County in the east the thickness ranges from 100 feet to 125 feet and decreases northward toward Ontario. Beyond these regional trends, the thickness of the Mt. Simon in a given locality is determined largely by the relief on top of the underlying Precambrian. The maximum known relief of this surface in Ohio is 328 feet, demonstrated by the three wells in Pickaway County (fig. 6). Westward in this county the Mt. Simon thins from 199 feet in the Midwest #1 Miller to zero in the Kewanee #1 Long, and the overlying Rome Formation thins from 334 feet in the former well to 205 feet in the latter. Samples show that the missing Rome section in the #1 Long is the basal part of the formation. This and the absence of the Mt. Simon in this well indicate nondeposition because of a Precambrian topographic high.

The Mt. Simon is overlain by the Eau Claire Formation in western Ohio and by the Rome Formation in central and eastern Ohio. Plate 2 shows where the geographic boundary between these two formations has been mapped. The contact of the Mt. Simon with the Eau Claire is placed at the base of a glauconitic to very glauconitic very fine- and fine-grained sandstone. The grain size of the Mt. Simon immediately below the contact may be identical to that of the Eau Claire, and the Eau Claire may contain alternating glauconitic and nonglauconitic beds in its lowermost portion; for these reasons the contact is transitional.

Where the Mt. Simon is overlain by the Rome Formation, the contact between the two formations is placed at the base of an oolitic and pelletal sandy to very sandy dolomite with minor interbedded sandstone; below this, sandstone predominates over dolomite. The contact is gradational in most wells. The situation in the #1 Long (fig. 5, permit no. 2, Pickaway County) is the only known example in Ohio of sandstone of the Rome lying directly on the Precambrian.

The depositional environment of the Mt. Simon is poorly understood at this time. The apparent virtual absence of fossils and the absence of glauconite

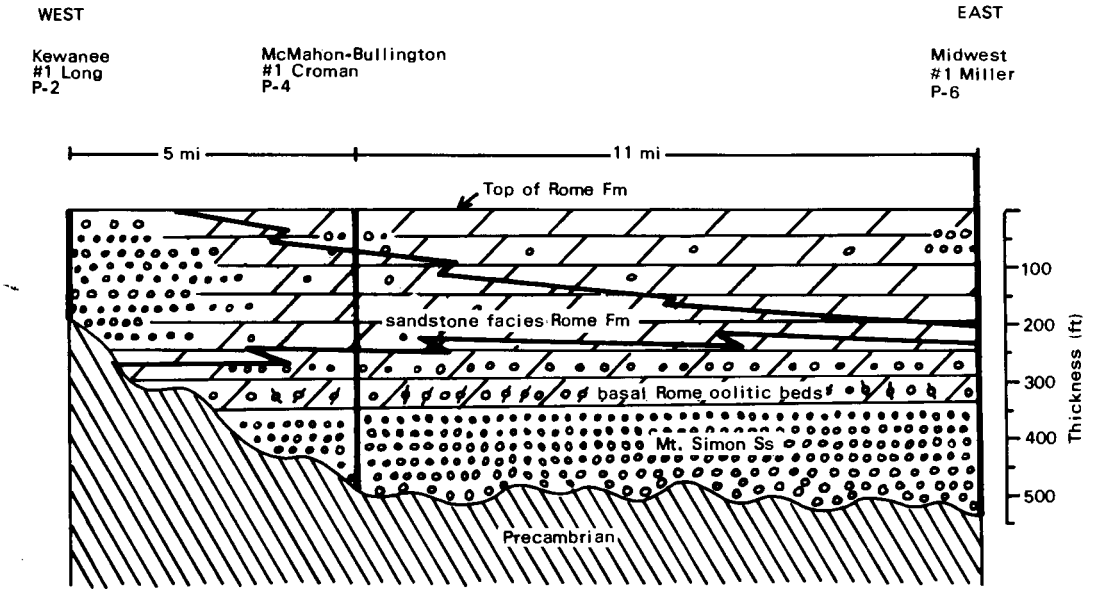


FIGURE 6.—Precambrian relief in Pickaway County.

suggest nonmarine deposition (littoral or terrigenous) that may have been followed by reworking of the sand during the earliest marine transgression (Eau Claire and Rome).

POST-MT. SIMON CLASTICS AND EQUIVALENT DOLOMITE

General statement

Rocks overlying the Mt. Simon Sandstone and underlying the Knox Dolomite are divided into the Eau Claire Formation in western Ohio, the Rome and Conasauga Formations (ascending order) in central and eastern Ohio, and the Kerbel Formation (new name), which overlies the Eau Claire and Conasauga Formations in a large area of the state. For the sake of nomenclatural simplicity, the Conasauga is mapped only as far west as the Rome Formation can be mapped. The stratigraphic relations between these formations, which display considerable lithologic variations through facies changes and intertonguing, are shown in figures 7 and 8.

Lithologically the Eau Claire in western Ohio is similar to the formation in eastern Indiana and consists mostly of glauconitic siltstone and very fine-grained sandstone with minor interbedded shale and dolomite. Eastward, all but the uppermost part of the Eau Claire passes into the Rome Formation, which consists of dolomite, except in a narrow north-south strip in central Ohio where it consists of sandstone with varying amounts of dolomite. The sandstone is similar to and occupies the stratigraphic position of the Rome Formation as defined by Harris (1964) in Kentucky. The uppermost Eau Claire passes eastward into the Conasauga Formation. This formation extends into Ohio from Kentucky, where it consists of shale with minor interbedded carbonate, siltstone, and sandstone. This lithology persists in south-central Ohio, but northward the formation thins and passes into a partly glauconitic siltstone and very fine-grained sandstone. Eastward from central Ohio the Conasauga passes into a sandy dolomite.

The name Kerbel Formation is proposed for an upward-coarsening dolomitic sandstone overlying the glauconitic fine clastics of the Eau Claire and Conasauga Formations. The Kerbel is lithologically similar to and occupies the stratigraphic position of the Galesville and Ironton Formations (ascending order) in Illinois. In some previous studies in Ohio sandstone assigned in this report to the Kerbel Formation has

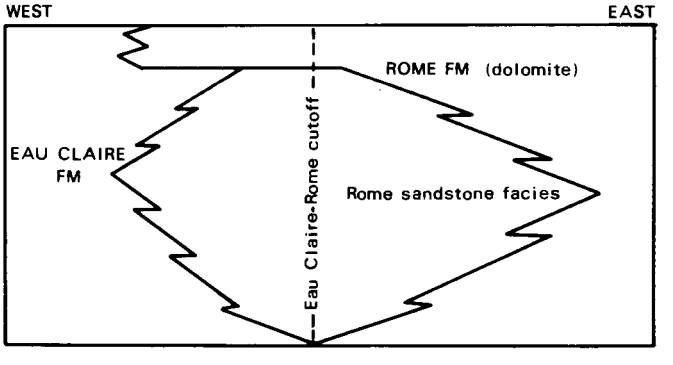


FIGURE 7.—Schematic east-west section of the Eau Claire and equivalent Rome strata.

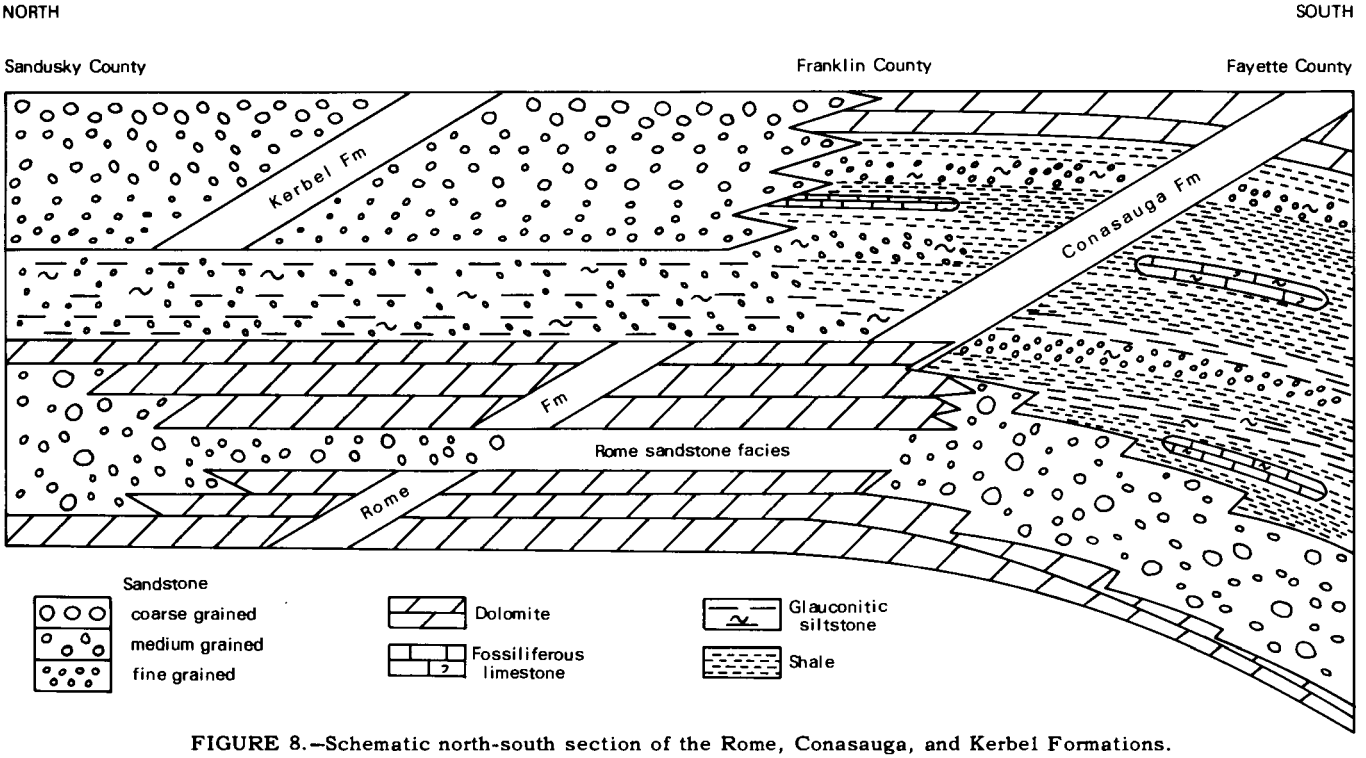


FIGURE 8.—Schematic north-south section of the Rome, Conasauga, and Kerbel Formations.

been referred to the Dresbach and Franconia Formations (ascending order).

Eau Claire Formation

The Eau Claire Formation in western Ohio consists mostly of glauconitic sandstone, siltstone, shale, and dolomite. Eastward the formation passes into the Rome and Conasauga Formations.

The Eau Claire Formation was named by Ulrich (*in* Walcott, 1914, p. 354) for exposures of fossiliferous glauconitic fine- and medium-grained sandstone with some interbedded shale and argillaceous sandstone overlying coarse-grained Mt. Simon Sandstone. The type section has recently been redescribed by Ostrom (1966, p. 26), who raised the lower boundary of the formation to make it coincide with the contact between coarse-grained sandstone below (Mt. Simon) and fine- and medium-grained sandstone above (Eau Claire). Previously, the boundary had been determined in part on paleontological grounds.

The Eau Claire in northeastern Illinois has been subdivided into three members (Buschbach, 1964, p. 32-33). In ascending order these are the Elmhurst Sandstone Member, the Lombard Dolomite Member, and the Proviso Siltstone Member. The Elmhurst consists of fine- to medium-grained sandstone with interbedded gray shale. The Lombard is a glauconitic partly sandy dolomite with interbedded greenish-gray shale. The overlying Proviso Member is a glauconitic grayish-orange or pinkish-gray siltstone with shale. The formation ranges in thickness from 375 feet to 575 feet and thickens southward.

In northern Indiana the Eau Claire contains three representative lithologies: very fine- to fine-grained dolomitic sandstone or siltstone, commonly pink in color and very glauconitic in part; glauconitic and micaceous green, maroon, and black shale; and partly glauconitic silty or sandy dolomite (Gutstadt, 1958, p. 27). The formation thickens southward across northern Indiana from 500 feet to more than 700 feet.

The Eau Claire in Ohio consists predominantly of glauconitic siltstone and very fine-grained sandstone that are micaceous in part. The siltstone and sandstone are light and medium greenish gray or brown or, more characteristically, light pinkish yellow (salmon colored). They may be interbedded with glauconitic green or reddish-brown shale, especially in the upper part of the formation, and with glauconitic silty or sandy dolomite. Limestone occurs only in trace amounts in some wells, except in the Continental #1 Wikoff in Clermont County, where 60 feet of micrite and calcisiltite with interbedded siltstone and shale lies about 100 feet below the top of the formation. The basal portion of the Knox in this well also consists of limestone. In this area, limestone occurs in the stratigraphic position of the Conasauga Group (including Maynardville Limestone) of Kentucky (Harris, 1964).

Brachiopod fragments are found in most wells in glauconitic sandstone of the Eau Claire. A brachiopod collected by Duane E. Moredock in the samples of the Gump Oil #1 Fogt in Shelby County between 2,539 feet

and 2,546 feet was identified by G. A. Cooper of the U.S. National Museum (F. J. Collier, personal communication, 1967) as a possible Late Cambrian *Dicellomus*.

Glauconite, the field name applied to dark-green grains consisting of undifferentiated clay minerals, occurs predominantly as very fine- to fine-grained pellets that are presumed to be of fecal origin.

The Eau Claire passes eastward into the Rome and Conasauga Formations. Tongues of the Eau Claire occur in the Rome in much of central Ohio and are easily recognized in the samples because they consist of very fine-grained glauconitic sandstone that is in sharp contact with nonglauconitic Rome dolomite and poorly sorted sandstone. Intertonguing of Rome lithologies with the Eau Claire occurs also. In Wood, Hancock, and Hardin Counties the upper parts of these tongues consist of Rome dolomite, while the lower parts consist of poorly sorted fine- to coarse-grained Rome sandstone. This sandstone is discussed with the Rome Formation. Eau Claire lithology is also present in central Ohio above the Rome and in this report is included in the Conasauga. Before the name Rome was introduced in Ohio and became firmly established, the name Eau Claire was applied to all strata in central Ohio between the top of the Conasauga as used in this report and the Mt. Simon Sandstone.

The eastern extent of the Eau Claire is generally determined by a lithologic change at the base of the formation. West of the boundary shown on plate 2, glauconitic siltstone and very fine-grained sandstone overlie the Mt. Simon, whereas east of the boundary a pelletal and oolitic sandy dolomite mapped as the Rome Formation in this report overlies the Mt. Simon. In a few wells this sandy and oolitic dolomite is found west of the boundary, but the remainder of the pre-Knox or pre-Kerbel strata in these wells has an Eau Claire lithology, and the sections have therefore been mapped as Eau Claire.

Thickness of the Eau Claire ranges from an estimated 200 feet in northern Lucas County to 562 feet in Defiance County (pl. 2).

The Eau Claire is overlain by the Kerbel Formation or by the Knox Dolomite. The contact with the Kerbel is transitional and is drawn at the change from predominantly glauconitic to partly glauconitic very fine-grained sandstone that grades upward into nonglauconitic sandstone. The contact with the Knox is also transitional and is placed at the change to nonglauconitic dolomite.

Where dense control is available it can be shown that some changes in thickness of the Eau Claire are facies related. In Wood County, for example, the interval from the top of the Precambrian to the top of the Eau Claire is 575 feet in both Kin-Ark #1 Carter and Southern Triangle #1 Knauss. In the former, however, the contact between the nonglauconitic sandstone (Mt. Simon) and glauconitic sandstone (Eau Claire) is 50 feet higher than in the latter. The Eau Claire in the #1 Carter is therefore apparently 50 feet thinner, and the Mt. Simon is 50 feet thicker.

Rome Formation

The name Rome was applied by Hayes (1891, p. 143) to sandstone underlying the Conasauga Shale and overlying the Weisner Quartzite near Rome in northwestern Georgia. Safford (1869, p. 209) had earlier described Rome-equivalent strata in northeastern Tennessee as the Knox sandstone. Neither the lower or upper contact of the formation was described by these authors. The Rome does not crop out in the Rose Hill district of Virginia, but the formation was logged by Miller and Fuller (1954, p. 24-28) in the Brooks well in the area. The formation is said to consist predominantly of green and red shale with some fine- to medium-grained glauconitic white, green, and brown sandstone. Regarding the contact with the Conasauga, these authors state (p. 27):

> Throughout most of southwestern Virginia, the Rutledge dolomite overlies the Rome and is readily distinguished from it. In the Rose Hill district, and in adjacent Tennessee, however, the Conasauga shale rests on the Rome. Both the lower part of the Conasauga and the upper part of the Rome are nonresistant, so that the beds near this contact are very poorly exposed and the contact relations between the two are almost unknown. In the Brooks well, there is very little distinction between the shales of the Conasauga and the Rome, and the contact is placed with difficulty. The Rome formation contains a greater proportion of interbedded sandstones than the Conasauga, however, and limestone beds in the Conasauga are more coarsely crystalline than the limestone in the Rome and may show fossil fragments. In the Brooks well the contact was drawn at the top of a thick sandstone unit and below a coarse-crystalline, oolitic limestone which seems to mark the first upward appearance of Conasauga type limestone.

According to these authors, there is 1,600 feet of Rome in the Brooks well, and the base of the formation has not been penetrated.

In Kentucky the name Rome was first used by Thomas (1960), who assigned formation tops to the sections penetrated in six deep tests in the eastern part of the state. One of these tests, in Bell County, is 15 miles from the outcrop in the Rose Hill district of Virginia. Thomas (1960, fig. 2) accepted the criteria for applying the names used by Miller and Fuller (1954), but did not state them explicitly. He mentioned (p. 11) that the Rome in one of the wells (in Martin County) was predominantly limestone rather than shale.

McGuire and Howell (1963) described the Rome in eastern Kentucky as consisting of sandstone, siltstone, shale, limestone, and dolomite. Sandstone is said to be typical of the lower part of the formation and siltstone and shale typical of the upper part. Dolomite content is said to increase in northeastern Kentucky. These authors placed the top of the Rome at the base of the lowest oolitic limestone of the Conasauga Shale

and drew the base of the formation at the top of the Shady-Tomstown Dolomite (p. 14) or at the top of the basal sandstone where the dolomite is absent. They indicated the possibility that "the lower sandy zone of the Rome correlates with the upper portion of the basal sandstone of Lincoln County and with part of the Mt. Simon Sandstone of Ohio and Indiana..." (p. 2-10). The well in Lincoln County is the California Co. #1 Spears. In an appendix (p. A-6) these authors show that in this well the "basal sand" is present between 5,110 feet and 5,760 feet and overlies the Precambrian. Freeman (1953, p. 209) also assigned this sandstone to the "basal sand" and described it as fine- to coarse-grained poorly sorted nonglauconitic sandstone.

The relationship between the Rome and overlying Conasauga in eastern Kentucky and adjacent areas to the south was studied by Harris (1964). He placed the upper contact of the Rome at the top of the highest abundant sandstone and stated that the proportion of sandstone to shale and siltstone increases to the northwest. As defined by Harris, the Rome in the Brooks well in the Rose Hill district is 680 feet thick (base not penetrated), which is almost 1,000 feet less than the thickness assigned by Miller and Fuller (1954). Differences shown in table 3 in the thicknesses of the Rome and Conasauga in eastern Kentucky as assigned by Harris (1964) and by previous workers are to a large extent accounted for by the way Harris defined the Rome Formation. He interpreted as Rome the sandstone in the California Co. #1 Spears in Lincoln County, Kentucky, assigned by McGuire and Howell (1963) and by Freeman (1953) to the basal sandstone.

Calvert (1962) first used the name Rome in Ohio in the Kewanee #1 Hopkins in Fayette County. The lithology of the formation in the well is not described in the text, but a brief and generalized lithologic log is shown on his plate 1. The formation is said to be conformable with underlying and overlying formations. Its base is placed "at the horizon above which the beds are predominantly red shale and sandstone," and the top is placed at the "base of the lowest bed of coarsely crystalline, oolitic limestone typical of the Conasauga or at the top of the highest thick sandstone of the Rome Formation" (p. 22). In the #1 Hopkins the Rome is shown to be present between 2,920 and 3,108 feet.

Examination of the samples of the #1 Hopkins shows that the contact between the Rome and Conasauga at depth 2,920 feet is an arbitrary one and that a better contact and one similar to that used by Harris (1964) in Kentucky can be drawn when the top of the Rome is placed at the top of the thick sandstone at depth 3,108 feet. The sandstone is very fine- to coarse-grained and in the samples is apparently poorly sorted, though it is possible that individual beds are well sorted. The sandstone is dolomitic and nonglauconitic and is interbedded with minor oolitic and pelletal sandy dolomite that increases in amount toward the base. In the Kewanee #1 McVey in Clinton County this basal dolomite is absent, and Rome sandstone overlies the Mt. Simon Sandstone directly. Arbitrarily, the contact between the two formations in this well has been drawn in this report at the base of a thin glauconitic sandstone. Except for this arbitrary criterion, sandstone of the Rome is essentially similar to sandstone of the upper Mt. Simon. The disagreement about the stratigraphic position of the thick basal sandstone in the California Co. #1 Spears in Lincoln County, Kentucky, indicates that this similarity persists southward beyond south-central Ohio.

The Rome sandstone is shown as Rome sandstone facies in figures 7 and 8. In the #1 Hopkins the Rome sandstone is overlain by very fine- and fine-grained glauconitic sandstone and interbedded shale and limestone that are assigned to the Conasauga Formation.

Westward from the #1 Hopkins the Rome sandstone passes into the Eau Claire. Northward the Rome section thickens as the lower part of the Conasauga is replaced by a predominantly very light-colored pelletal dolomicrite and dolosiltite with fine- to coarse-grained sand. The pelletal and oolitic dark-brown dolomite of the basal Rome in the #1 Hopkins thickens upward to the north and east and in eastern Ohio becomes interbedded with the pelletal very light-colored dolomite. In central Ohio these two types of dolomite are separated from each other by eastward-thinning Rome sandstone with the lithology as described from the #1 Hopkins, except that the sandstone in places is dolomitic and may grade into dolomite. Plate 3 shows the percentage distribution of Rome sandstone and the approximate western boundary of this sandstone within the Eau Claire; the sandstone passes westward into the Eau Claire by facies change within one to two counties.

Thickness of the Rome Formation ranges from 190 feet in Fayette County to 715 feet in Columbiana County (pl. 3). Thinning of the Rome in Fayette County and adjacent Clinton and Highland Counties is accompanied by an increased thickness of the overlying Conasauga Formation.

As mapped in this report, the Rome in Ohio is everywhere overlain by the Conasauga Formation. The contact between these two formations is sharp everywhere except in east-central and southeastern Ohio, where Rome dolomite is overlain by sandy Conasauga dolomite. In south-central Ohio, where nonglauconitic Rome sandstone is overlain by glauconitic sandstone with interbedded shale and carbonate, the contact is a good log marker. To the north the contact between Rome dolomite and partly glauconitic siltstone and very fine-grained sandstone of the Conasauga is the best log marker within the Sauk sequence in Ohio.

The existence of this excellent log marker explains why the name Rome has become so firmly established in Ohio among drillers and petroleum geologists. The name has been retained in this report for

that reason and because examination of the samples showed that the dolomite is in stratal continuity with Rome sandstone as defined by Harris (1964) in Kentucky; hence, no errors in lithostratigraphic correlations result from use of the name in Ohio.

As shown in this report, the Rome and all but the uppermost part of the Eau Claire are lithostratigraphic equivalents in Ohio. Harris (1964, fig. 3) has indicated that the Rome in Kentucky rises time stratigraphically toward the northwest. This means that the Rome in Ohio occupies the highest known time-stratigraphic position in the Rome lithosome.

Dolomite equivalent to Rome dolomite in northeastern Ohio is mapped as the Warrior Formation in northwestern Pennsylvania by Wagner (1966).

The name Shady Dolomite was introduced in Ohio by Calvert (1962, p. 20, 21) for strata assigned to the Rome Formation in this report.

The Shady Limestone was named originally by Keith (1903, p. 5) from Shady Valley, Johnson County, Tennessee, where the formation consists of 800 feet of limestone underlain by the Erwin Sandstone and overlain by shale equivalent to the Rome or Conasauga. According to Butts (1940, p. 40), the Shady is the same unit as the Tomstown Limestone, named by Stose (1906, p. 208) from Tomstown, Franklin County, Pennsylvania.

Thomas (1960) assigned to the Tomstown Dolomite a dolomite ranging in thickness from 0 to 280 feet overlying the "basal sand" and underlying his Rome Formation in several wells in eastern Kentucky. Harris (1964, fig. 3) showed this dolomite as westward-disappearing lentils in the Rome.

This same dolomite is shown as the Shady Dolomite by Calvert (1962, plate 1) in a cross section from the Rose Hill district in Virginia to the #1 Hopkins in Fayette County, Ohio. The lithology of the unit in this well is not stated in the text, but in the generalized log on the cross section it is shown to be a sandy oolitic dolomite with fine- and medium-grained sandstone and stringers of red shale; it lies between 3,108 feet and 3,320 feet. The top of this interval is a log marker because it is overlain by shale and glauconitic fine-grained clastics.

The sample study of this report shows that the sandstone assigned by Calvert to the Shady is the sandstone facies of the Rome Formation in south-central Ohio and Rome dolomite underlying Rome sandstone farther north. Where this facies is absent in central and eastern Ohio, the log top of Calvert's Shady is completely arbitrary. The name was abandoned by drillers and petroleum geologists when this was realized. For these reasons, use of the name Shady Dolomite is discontinued in Ohio.

Conasauga Formation

The Conasauga Shale was named by Hayes (1891, p. 143, 144) for the Conasauga Valley in northwestern Georgia, where the formation consists of alternating beds of calcareous shale and limestone and is underlain by the Rome Formation and overlain by Hayes' Knox Dolomite. Rodgers (1953, p. 46) has shown that the Conasauga Shale in eastern Tennessee passes to the southeast into six units of alternating shale and limestone that together comprise the Conasauga Group. These units are in ascending order the Pumpkin Valley Shale, Rutledge Limestone, Rogersville Shale, Maryville Limestone, Nolichucky Shale, and Maynardville Limestone.

In the Rose Hill district of Virginia the exposed portion of the Conasauga Shale consists of red and green shale with interbedded limestone and minor glauconitic and micaceous siltstone (Miller and Fuller, 1954, p. 28-31). In Kentucky the name Conasauga was first used by Thomas (1960), who assigned undescribed shale and limestone to the formation. Harris (1964) concluded that, with the exception of the Maynardville, the limestone members of Rodgers' (1953) Conasauga Group wedge out toward the northwest in the subsurface of Kentucky. The Maynardville Limestone was differentiated by him into a lower limestone member and an upper dolomite member, which overlaps or oversteps the lower member. He used the name Conasauga Group where the lower limestone member of the Maynardville can be recognized, and lowered the name Conasauga to formation rank in the area where only the upper dolomite member of the Maynardville remains.

Calvert (1962, p. 23, pl. 1) assigned glauconitic and micaceous siltstone and very fine-grained sandstone with green micaceous shale between 2,833 feet and 2,920 feet in the #1 Hopkins to the Conasauga Formation. He placed the upper contact of the unit "at the base of the lowest massive bed of finely crystalline limestone [Maynardville] or dolomite of the Knox Supergroup."

Examination of the samples has shown that the Conasauga Formation in Ohio has three lithofacies (pl. 4). The formation is interpreted in this report to be genetically closely related to the overlying Kerbel Formation.

The first or southern lithofacies extends from Kentucky into south-central Ohio. The facies consists of a sequence of interbedded red and green shale and minor partly glauconitic siltstone, very fine-grained sandstone, and limestone. The limestone varies from micrite to bioclastic calcarenite, is oolitic in small part, and is in part dolomitized. The uppermost part of the facies in most wells consists of partly glauconitic silty or sandy dolomite or glauconitic siltstone or sandstone that grades into the overlying Kerbel Formation or Knox Dolomite. The contact with the Kerbel is placed at the change to very slightly glauconitic or nonglauconitic sandstone or sandy dolomite. The contact with the Knox Dolomite is placed at the change from shale and interbedded limestone and fine

clastics to dolomite without interbedded shale. As discussed under the Rome Formation, Calvert's (1962) contact between the Conasauga and Rome has been lowered in this report. This southern lithofacies grades westward into the Eau Claire Formation.

To the north the basal portion of the southern facies grades into Rome dolomite, and the uppermost part grades into sandstone and dolomite of the Kerbel Formation. The remaining middle portion of the facies consists of partly glauconitic siltstone and very fine-grained sandstone that grade into the generally non-glauconitic sandstone of the Kerbel. The siltstone and sandstone of the Conasauga in north-central Ohio resemble the Eau Claire to the west; they were included in this as the uppermost part before the names Rome and Conasauga became established in Ohio. For example, Fettke (1948) placed the top of the Eau Claire in the Ohio Oil Co. #1 Krause in Ashland County at 4,740 feet, which is the top of the Conasauga of this report.

In the relatively few wells in eastern Ohio in which the Conasauga has been penetrated the formation consists of sandy predominantly microcrystalline to finely crystalline light- to dark-gray and brown dolomite with varying amounts of interbedded fine- to coarse-grained sandstone. The dolomite is pelletal and oolitic in the Amerada #1 Ullman in Noble County. The upper part of the formation in northeastern Ohio is correlative with the Kerbel Formation to the west. The relationship between the Kerbel and the Conasauga in northeastern Ohio is further discussed where the Kerbel Formation is described. The contact between the Conasauga and Knox in eastern Ohio is gradational and is placed at the change from sandy dolomite with interbedded sandstone to nonsandy dolomite.

Thickness of the Conasauga ranges from 40 feet in Ashland County to 439 feet in Highland County (pl. 4). Thinning of the formation in southeastern Ohio may be accompanied by a corresponding increase in the thickness of the Knox Dolomite, but available control is too sparse to substantiate this suggested relationship.

Sandy dolomite and sandstone in northwestern Pennsylvania in the stratigraphic position of the Conasauga of northeastern Ohio are mapped as the lower sandy member of the Gatesburg Formation by Wagner (1966).

Kerbel Formation

The name Kerbel Formation is proposed for fine- to coarse-grained sandstone overlying the Eau Claire and Conasauga Formations and underlying the Knox Dolomite in a large area of Ohio. The subsurface type section of the formation is the Maguire #1 Kerbel in Sandusky County, Ohio (figs. 9 and 10):

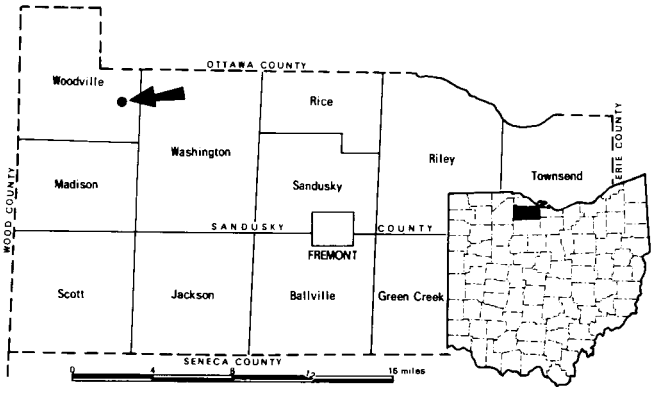


FIGURE 9.—Location map of the subsurface type section of the Kerbel Formation in Sandusky County, Ohio.

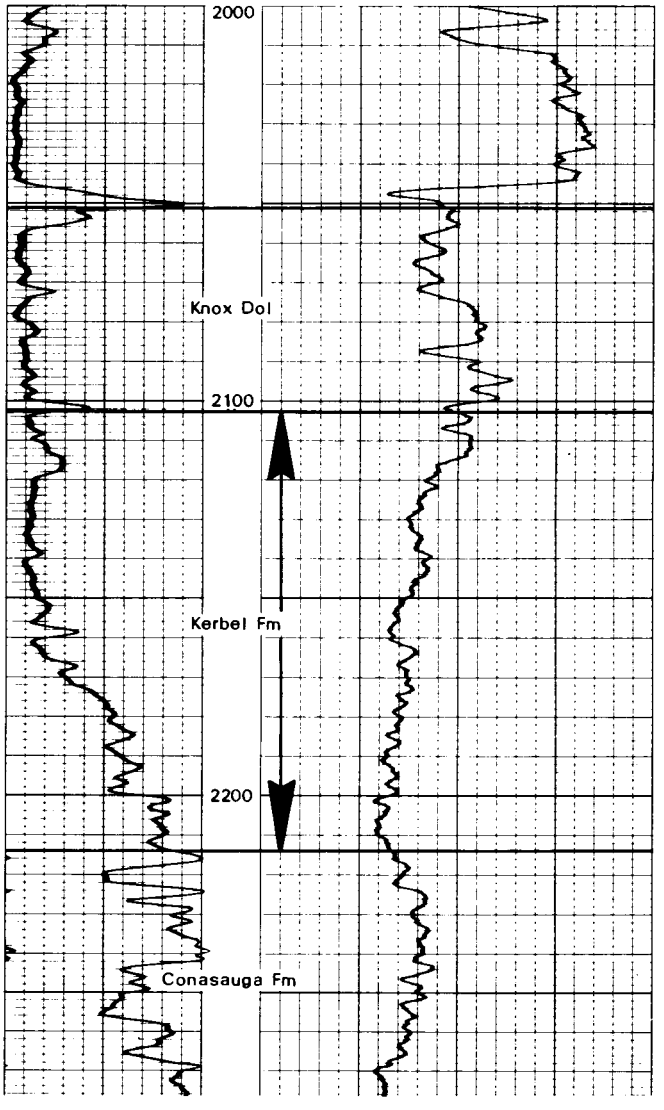


FIGURE 10.—Gamma ray-neutron log of the type Kerbel Formation.

Well name:	#1 Kerbel
Operator:	Russell Maguire
Location:	Sandusky County, Ohio. Woodville Township, sec. 36, 660 feet from south line and 1980 feet from east line of NW¼ of sec.; located on Elmore 7½-min. quadrangle.
State permit number:	147
State sample number:	1853
Range of samples:	1,200 to 2,782 feet
Deepest formation penetrated:	Precambrian
Total depth:	2,782 feet
Completion date:	11-29-65
Initial production:	Dry (and abandoned)
Available mechanical logs:	Gamma ray-neutron Formation density (Schlumberger)
Elevations:	Ground level 638.6 feet Kelly bushing 647 feet
Description of the formation:	See appendix A

The Kerbel Formation in its type section is representative of the formation in Ohio. Its lower contact is gradational and is drawn at the base of a very slightly glauconitic sandstone which is underlain by glauconitic to very glauconitic sandstone of the Eau Claire Formation or of the northern facies of the Conasauga Formation. The sandstone above the contact is generally nonglauconitic and coarsens upward from very fine and fine grained to medium and coarse grained. The uppermost part of the formation is dolomitic and may grade into dolomite. The upper contact is drawn at the top of the highest medium- or coarse-grained sand. The contact is best placed with the aid of samples.

In several wells just south of Lake Erie, in Sandusky, Erie, Lorain, and Medina Counties, the basal Knox Dolomite contains probably northward-thickening lentils or tongues of fine-grained sandstone that are in sharp contrast with the medium- and coarse-grained sand of the underlying Kerbel.

Thickness and distribution of the Kerbel are shown in plate 5. Thickness of the formation ranges from 0 to 170 feet and is generally greatest in Wood and Sandusky Counties, near the type area of the formation.

The Kerbel is replaced to the west by the Eau Claire Formation. The zero isopach of the Kerbel in western Ohio marks a facies boundary that is presumed to be sharp, because no medium- or coarse-grained sand has been found in the uppermost Eau Claire west of the zero isopach. The boundary differs in this respect from the boundary in eastern Ohio. Sandstone is entirely absent above the Conasauga in Holmes and Wayne Counties and in the southern of the two wells in Medina County (pl. 5). To the east, sandstone beds of varying thickness are present in the stratigraphic position of the Kerbel Formation, but the samples from most wells in which these sandstone beds are found are poor to very poor and do not permit firm conclusions to be drawn about the proportion of sandstone to dolomite; the sandstone beds and the dolomite with which they are interbedded are therefore assigned to the Conasauga Formation in this report. The isopach map of the Kerbel (pl. 5) shows the net thickness of these sandstone beds as derived from crossplot analysis of mechanical logs. Additional information may show that the Kerbel Formation can be mapped in this part of the state.

A well in Mahoning County (Kin-Ark #1 Brenner) penetrated about 100 feet of fine- to coarse-grained sandstone with interbedded dolomite in the Knox Dolomite. The top of this sandy zone lies about 350 feet below the Knox unconformity and about 250 feet below the top of the Rose Run sandstone (unpublished sample description, samples not available). Some petroleum geologists named the sandy zone the "Brenner sand" and correlated it with the "B zone" in the Knox Dolomite (p. 24). This study has shown, however, that the sandy zone below the Rose Run in the #1 Brenner is the Conasauga Formation.

TABLE 4.—*Interval comparison of the Kerbel Formation of this report and the Franconia and Dresbach Sandstones of earlier reports*

Previous author(s)	Well name and county	Formation(s)	Interval (ft below surface)	Interval of the Kerbel Formation (ft below surface)
Cohee (1945) Fettke (1948)	#1 Barlage, Putnam County	Franconia Sandstone Dresbach Sandstone	2565-2590 2590-2600	2547-2600
Fettke (1948)	#1 Krause, Ashland County	Dresbach Sandstone	4683-4740	4667-4740
Shearrow (1957)	#1 Heck, Wyandot County	Dresbach and Franconia Sandstones	2119-2238	2113-2238

Sandstone in this report referred to the Kerbel Formation has previously (table 4) been assigned to the Dresbach and Franconia Formations (Cohee, 1945; Fettke, 1948) and to the undifferentiated Dresbach-Franconia (Shearrow, 1957). In the first study in which the Dresbach and Franconia Formations were said to be present in Ohio, Cohee (1945) traced these rocks from eastern Wisconsin through northeastern Illinois and northern Indiana into northwestern Ohio and southeastern Michigan. Cohee's well No. 14 (1945, fig. 1) shows the section in the Hughes Oil #1 Parish in Kankakee County, Illinois. Samples from the same well were subsequently examined by Buschbach (1964, p. 83, 84). A comparison shows that the thickness of Cohee's combined Dresbach and Franconia (220 feet) is approximately that of Buschbach's combined Galesville and Ironton (200 feet), but that Cohee's Dresbach-Franconia boundary is approximately 90 feet higher stratigraphically than Buschbach's Galesville-Ironton boundary. It is therefore not possible merely to substitute the name Galesville for strata described as Dresbach by Cohee or to substitute the name Ironton for strata previously assigned to the Franconia.

Cohee (1945) reported the sandstone of his Dresbach and Franconia absent in north-central Indiana, and a similar conclusion was later reached by Gutstadt (1958). Published information regarding the presence of "Dresbach" and "Franconia" sandstone in the southern peninsula of Michigan is inconclusive. Cohee (1945, fig. 1) shows sandstone in Lenawee, Washtenaw, and Wayne Counties in southeastern Michigan. Ells (1967, fig. 1, wells 6, 7, and 8) shows sandstone absent in the stratigraphic position of his Galesville-Ironton and Franconia along a north-south cross section in the eastern half of the southern peninsula.

The names Dresbach and Franconia are now used by the Wisconsin Geological Survey as stage names (Ostrom, 1970, p. 7; fig. 3 in this report).

The author believes that the Kerbel Formation in Ohio is correlative with sandstone of the Galesville and Ironton Formations in Illinois. The Galesville was described by Buschbach (1964, p. 33) as a

> fine-grained, only slightly dolomitic, and generally well sorted sandstone overlying the sandstone, siltstone, dolomite, and shale of the Eau Claire Formation and underlying the coarser grained poorly sorted, dolomitic sandstone of the Ironton Sandstone.

The Ironton Sandstone, which he divided into four members, was described by Buschbach (p. 35) as a

> clean, medium- to coarse-grained, partly dolomitic, moderately to poorly sorted sandstone that . . . underlies the glauconitic, argillaceous, and fine-grained sandstone of the Franconia Formation.

The Kerbel Formation correlates to the east with the upper part of the lower sandy member of the Gatesburg Formation in northwestern Pennsylvania as mapped by Wagner (1966). Rocks in eastern Kentucky correlative with the Kerbel are mapped as basal Knox by McGuire and Howell (1963) and occupy the stratigraphic position of the Maynardville Limestone.

The Maynardville Limestone was named originally by Oder (1934, p. 475-476) from the town of Maynardville, Union County, Tennessee. At this locality the formation consists of

> 60-250 feet of thin-bedded to massive, light-bluish to dark-gray, fine- to coarse-grained limestone, with dark-gray dolomite forming the upper third of the formation.

Oder tentatively included the formation in his Knox Group on the basis of lithologic similarity. The presence of dolomite in the Maynardville was also noted by Rodgers (1953, p. 46-53), who included the formation in his Conasauga Group in the central part of eastern Tennessee. He lowered the group to formation rank in the western part of eastern Tennessee, where the Maynardville Limestone overlies the Conasauga Shale and underlies the Copper Ridge Dolomite.

The Maynardville is not recognized as a formation in eastern Kentucky by McGuire and Howell (1963), who include rocks in its stratigraphic position in the Copper Ridge Dolomite or in the undifferentiated Knox Group or Dolomite. Harris (1964, p. 29), however, recognizes the Maynardville dolomite member of the Conasauga Shale as far northwest as Lewis and Lincoln Counties.

The Maynardville Dolomite was said by Calvert (1962, p. 26, 27) to overlie the Conasauga Formation with a thickness of 160 feet in the #1 Hopkins in Fayette County. This author has reexamined the samples from this well and has not been able to find any criteria that could be used to differentiate Calvert's Maynardville from this author's Knox Dolomite. The equivalent of the Maynardville Limestone of Virginia and Tennessee is probably present in places in southern Ohio, but until undoubted Maynardville can be traced into the possible equivalents, the author proposes that where carbonate strata occur between the Kerbel Formation and the clastics of the Conasauga Formation in south-central Ohio, they be included in the latter formation.

Depositional relationships

The lithologies and stratigraphic relationships of the post-Mt. Simon pre-Knox strata in Ohio have convinced the writer that the Kerbel Formation was deposited as a deltaic fan and that the shale and interbedded carbonates and sandstones of the Conasauga Formation in south-central Ohio represent the prodelta marine facies of this deltaic fan. The available information is not sufficient to reconstruct the origin of the Rome sandstone in south-central Ohio, but the

writer believes it entirely possible that with additional information in Kentucky this sandstone may be shown to have been deposited as a pre-Kerbel delta. The evidence on which these interpretations are founded has been presented in this report and is briefly reviewed in the context of a deltaic origin. The review covers the following points: (1) shoreline, (2) source of the sediments, (3) geographic and thickness distribution of the Kerbel Formation, (4) distribution of sand grain size in the Kerbel Formation, (5) stratigraphic distribution of glauconite, (6) stratigraphic relationships between Kerbel and Conasauga Formations, and (7) contact between Rome and Conasauga Formations.

As interpreted in this report, the environments of deposition of the Rome, Conasauga, and Kerbel sediments support references to a northwestern source for the Rome and Conasauga clastics in the central and southern Appalachians (Rodgers, 1956, p. 376-378; Dunbar and Rodgers, 1957, fig. 113, p. 239, 250).

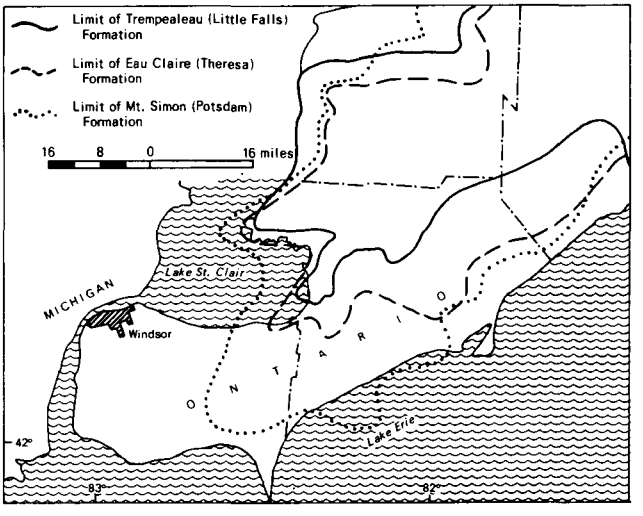


FIGURE 11.—Pre-Middle Ordovician geological map of southwestern Ontario (geology from Sanford and Quillian, 1959).

Shoreline.—A prime requisite in attributing a deltaic origin to ancient sediments is recognition of the associated shoreline. In the case of the Kerbel sediments, the shoreline associated with their deposition has been shown by Sanford and Quillian (1959, map 30-1958; fig. 11 in this report). These authors found that "successively younger Cambrian beds in southwestern Ontario overlap one another to lie directly on the Precambrian" (p. 10). The strike of the overlap parallels the northern shore of Lake Erie toward the southwest and swings north to northeast at about the axial position of the Algonquin Arch to follow approximately the Michigan-Ontario boundary. The general position of this shoreline is shown independently by the increasing amount of sand in dolomite of the Rome and Knox formations along the southern shore of Lake Erie in Ohio.

The direction of the shoreline paralleling the strike of the regional transgression in Ohio is shown on the ratio map (fig. 12) on which the north-striking boundary between clastics to the west and dolomite to the east parallels the regional depositional strike. How these shorelines were connected is not known at present.

Source of the sediments.—Sand found in Ohio in the Mt. Simon, Rome, and Kerbel formations is generally similar in grain size and degree of textural maturity, although the apparent degree of sorting differs between the formations. This suggests a common source area such as the Canadian Shield. Most probably, the main source area of the Mt. Simon was the Canadian Shield north or northwest of Illinois in view of the thickening of the Mt. Simon to more than 2,000 feet in northeastern Illinois. Plate 5 shows that the Kerbel Formation in Ohio thickens toward the north, presumably thinning again north of Ohio, where the source area was located. The availability of clastics probably older than the Mt. Simon in the northern midcontinent area is documented by the occurrence of the Jacobsville Formation (Precambrian or Cambrian) in the northern peninsula of Michigan. This formation was described by Hamblin (1958) as consisting of conglomerate, sandstone, and red siltstone, and as having a thickness from 15 feet to more than 1,000 feet. According to Hamblin (p. 18, 23), the sand is predominantly fine and medium grained and ranges in degree of rounding from subangular to rounded. The commonly red color of the Jacobsville clastics is primary, according to Hamblin (p. 25). Source of the sediments is said (p. 53) to be south of the outcrop belt, although this conclusion was apparently questioned by Hite (1967, p. 79), who found it "tenuous."

The occurrence of these sediments in northern Michigan shows that similar clastics located on the Canadian Shield may have been available as a source of clastics in Ohio.

Geographic and thickness distribution of the Kerbel Formation.—The thickness map of the Kerbel Formation (pl. 5) shows that the geographic distribution of the formation resembles that of a southward-pointing fan. For comparison, the Red Bedford delta (Mississippian), mapped by Pepper and others (1954), is shown in figure 13.

The northward-increasing thickness of the Kerbel suggests that the source of the sandstone lay to the north. A northern source of the Kerbel sandstone is indicated also, indirectly, by the relationship between the Kerbel and the laterally equivalent formations to the west and east. The thickening of the Eau Claire toward the west and the northward depositional strike of that formation shown on the ratio map (fig. 12) prove a generally western source for the Eau Claire clastics. East to southeast of the Kerbel fan the entire section becomes dolomite. In view of this, it would be

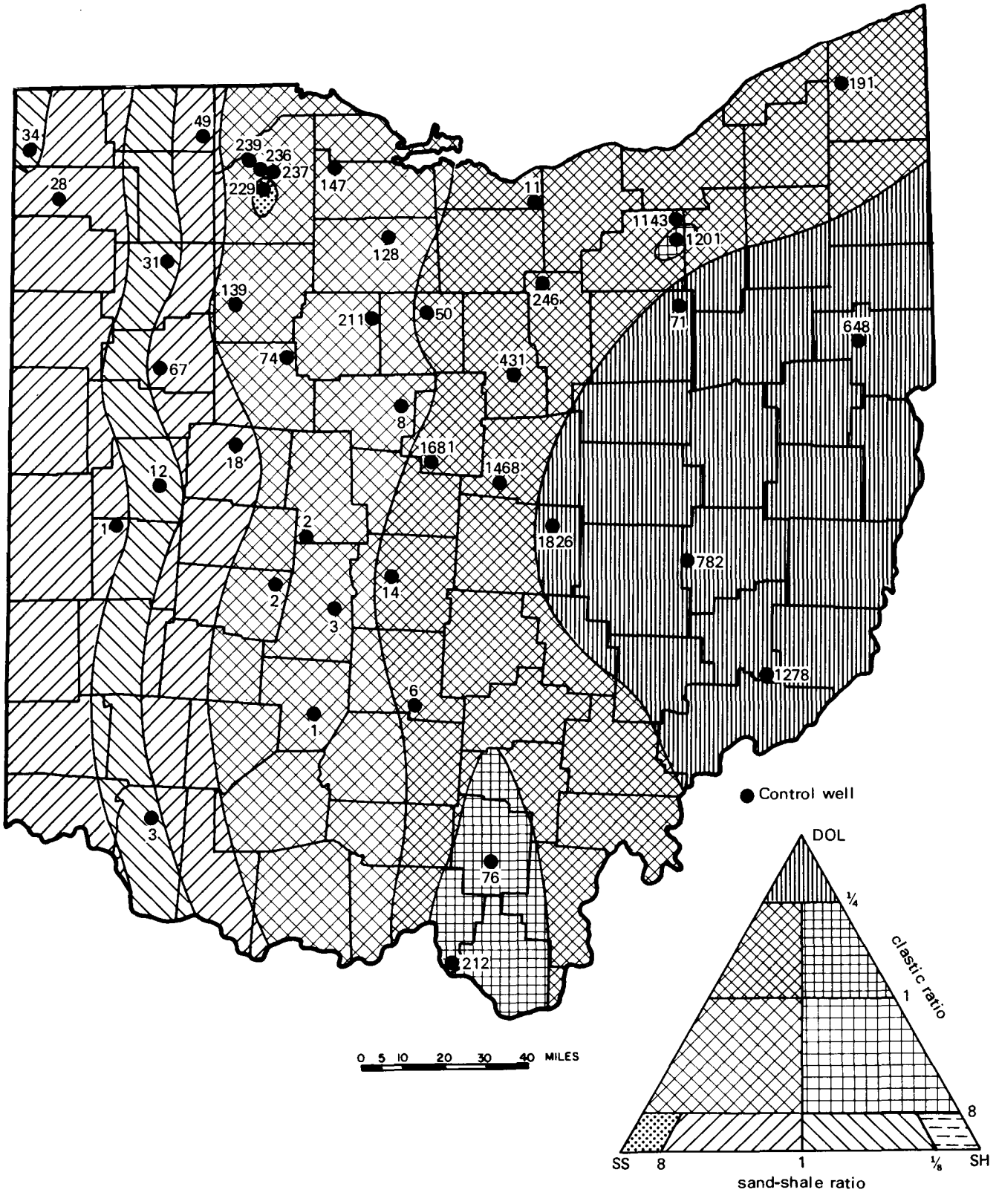


FIGURE 12.—Lithologic ratio map of post-Mt. Simon pre-Knox rocks.

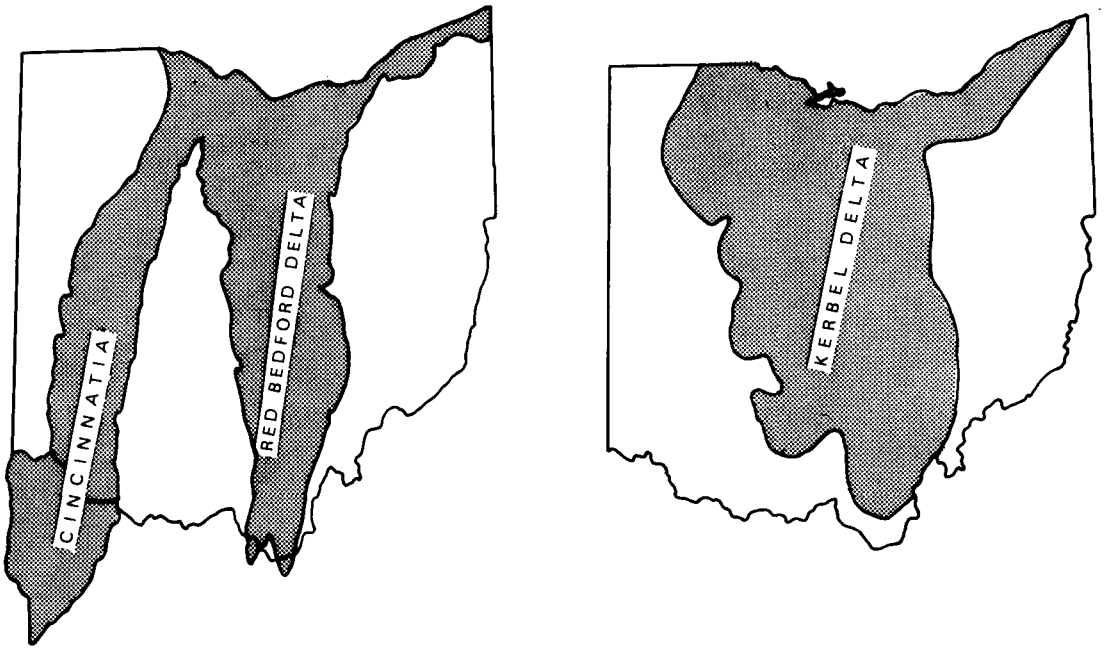


FIGURE 13.—Comparison of the Red Bedford delta (Pepper and others, 1954) and the Kerbel delta.

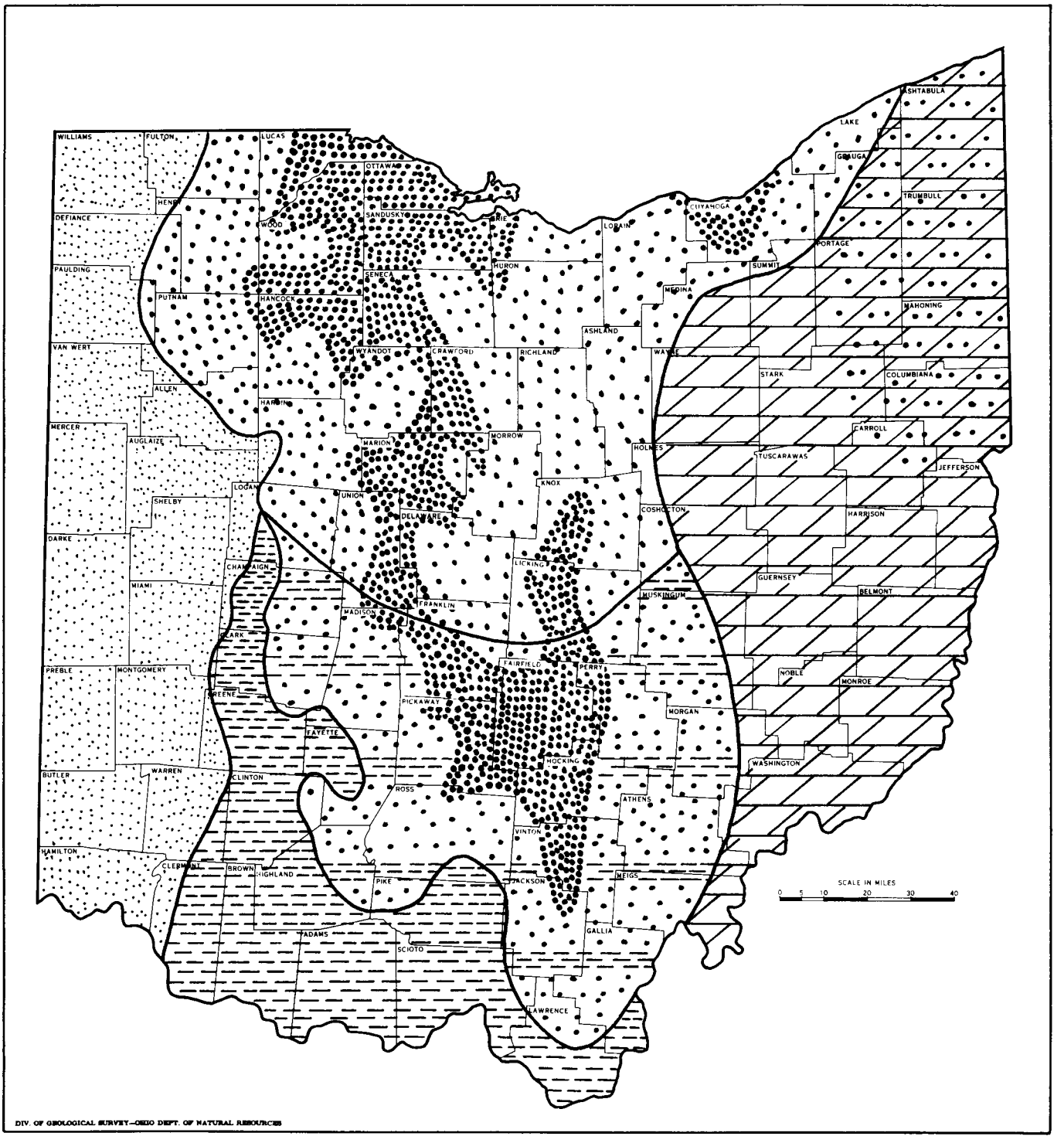
difficult to account for a western or eastern source for the Kerbel sandstone with its fan-shaped distribution pattern. The disappearance toward the south and the relationship of the sandstone with the Conasauga shale (*q.v.*) preclude a southern source.

Distribution of sand grain size in the Kerbel Formation.—With very few exceptions, the grain size of the sand in the Kerbel coarsens upward, from very fine and fine at the base to medium and coarse at the top. The simplest explanation of this attribute is that the Kerbel sandstone is progradational, that is, deposited in a local transgression in which the shoreline moved seaward as long as the supply of the sand was sufficient to maintain the transgression.

Stratigraphic distribution of glauconite.—Glauconite is distributed in a definite pattern in the Kerbel and Conasauga Formations, characterizes the Eau Claire Formation, and is virtually absent in the Rome Formation. The mineral is restricted to the basal few feet of the Kerbel, but is common in the siltstone and very fine-grained sandstone of the underlying Conasauga Formation in north-central Ohio. South of Franklin County the Conasauga thickens by the addition of glauconitic shale and carbonate. It is generally agreed that the presence of glauconite in clastics is evidence of marine deposition, although nonglauconitic sediments are not necessarily nonmarine in origin. The distribution of glauconite suggests strongly that within the Conasauga and Kerbel the upper boundary of glauconitic sediments marks in a general way the change from marine (lower) to nonmarine (upper) deposition. This boundary rises stratigraphically southward, and in southern Ohio, beyond the limits of the Kerbel, lies at the top of the Kerbel-equivalent strata. This interpretation is in accord with a progradational origin of the Kerbel sandstone.

Stratigraphic relationships between Kerbel and Conasauga Formations.—The stratigraphic relationship between the Kerbel and Conasauga is shown on plate 6 and in figure 14. From Lake Erie south to Franklin County the Kerbel is underlain by glauconitic siltstone and very fine-grained sandstone. Farther south, thinning of the Kerbel is accompanied by thickening of the Conasauga by several hundred feet and by a change in the lithology of this formation by the addition of partly glauconitic and fossiliferous shale and limestone (partly dolomitized). When this relationship is viewed in combination with lithologic evidence presented above, the simplest interpretation to account for the thick shale is that it represents the prodelta marine mud deposited seaward from the prograding Kerbel sand. In this interpretation the carbonates in the Conasauga were deposited during periods in which the supply of mud was temporarily cut off. This interpretation also accounts for the carbonates that in a few wells intervene between shale of the Conasauga and sandstone of the Kerbel.

Contact between Rome and Conasauga Formations.—Below the mapped Kerbel Formation the contact of Rome dolomite with Conasauga siltstone and sandstone is sharp. To the east this contact becomes gradational, and to the west, where the Rome descends stratigraphically and occurs as tongues in the Eau Claire, the contact ranges from gradational to sharp.



Clastics shelf (Eau Claire)

Prodelta (Conasauga shale)

Delta (Kerbel), dense pattern where Kerbel is more than 100 feet thick

Delta (Kerbel overlying Conasauga shale)

Marine bars (Conasauga)

Carbonate shelf (Conasauga)

FIGURE 14.—Generalized lithologies and depositional environments of strata below the Knox Dolomite.

In a preliminary report the writer (Janssens, 1970) attributed the sharp contact in north-central Ohio to a local unconformity. Additional work has shown, however, that this sharp contact probably represents erosional truncation through scouring of the carbonate sediments (Rome) by the initial prodelta siltstone and sandstone (Conasauga).

The evidence presented indicates that the Kerbel Formation was deposited as a prograding deltaic sand by a southward-flowing river system. The proximal (upstream) portion of the delta was located in Ontario and has been removed by post-Cambrian erosion. The siltstone and sandstone of the Conasauga underlying the Kerbel in north-central Ohio were laid down as the initial marine prodelta sediments that are supplanted to the south by the thick prodelta shale and interbedded carbonate. West of the deltaic fan lay a shallow marine clastics shelf (fig. 14), and east of the fan lay a carbonate shelf in which offshore bars accumulated. The origin as offshore bars for the sandstone in the Conasauga in northeastern Ohio is suggested by the absence of associated prodelta muds.

The limited area in central Ohio where the Rome Formation consists of 50 percent or more sandstone does not permit firm conclusions to be drawn regarding the origin of this sandstone. Additional information in adjacent Kentucky is required before this depositional environment can be deduced. The author believes, however, that the Rome sandstone may have been deposited in a type of delta similar to that in which the Kerbel sandstone was subsequently deposited. In this interpretation the upstream portion of the delta lies between the 50 percent sandstone line and the western boundary of Rome sandstone (pl. 5), whereas the delta itself lies in Kentucky and in south-central Ohio as far north as Fayette County. In this suggested relationship Rome sandstone in Kentucky should be found to be replaced southward by shale and relatively thin limestone beds.

KNOX DOLOMITE

General statement

Knox Dolomite is the name applied in this report to dolomite overlying the Eau Claire, Kerbel, and Conasauga Formations and underlying the regional Knox unconformity. The basal portion of the unit in western Ohio may include strata equivalent to the Franconia Formation in northeastern Illinois. In southern Ohio the basal Knox probably includes strata mapped as Maynardville Limestone in Tennessee.

The Knox Dolomite of this report has been subdivided by previous authors by means of several criteria. Available information shows that none of these criteria can be used consistently throughout the state. Cohee (1945, fig. 1, well 17) divided the dolomite overlying his Franconia Sandstone in the #1 Barlage in Putnam County in ascending order into Trempealeau Formation and Oneota Dolomite. His Oneota is 33 feet thick and is shown directly underlying limestone of the Middle Ordovician Black River Formation. Shale is shown to be present in the basal 10 to 15 feet of the Oneota. Fettke (1948) examined the samples from this well and agreed with the assignment of the dolomite overlying the Franconia Sandstone to the Trempealeau Formation; the uppermost 33 feet were referred to the Middle Ordovician Glenwood Formation. The difference in the correlations used by these two authors is probably due to two lithologic factors. At depth 2,025 feet in the samples there is a sharp contact between lithographic limestone above and finely and medium-crystalline white and brown dolomite with minor gray to greenish-gray shale below. The dolomite is present to depth 2,053 feet, below which lies 17 feet of silty and sandy green shale and gray, brown, and greenish-gray siltstone. In assigning formation names to the section between 2,025 feet and 2,070 feet, Cohee (1945) apparently emphasized the sharp lithologic contact at 2,025 feet by assigning the dolomite below the contact to the Oneota. The shale and siltstone with a thickness of 17 feet probably is the basal portion of his formation. Fettke (1948) apparently relied on the persistent presence of the Glenwood shale and siltstone in Ohio and referred the 17-foot thick shale and siltstone, together with the white and brown dolomite, to this formation.

In this report the top of the Knox has been placed at the base of Cohee's Oneota (Fettke's Glenwood) after it was found (*e.g.*, in Harner Union #2 Yewey, Mercer County) that Cohee's Oneota is locally dolomitized basal Black River limestone.

Cohee (1945) applied the names Trempealeau Formation and Oneota Dolomite after tracing the units from eastern Wisconsin. Rocks formerly included in the Trempealeau Formation in Illinois are now referred to the Potosi Dolomite and Eminence Formation (Buschbach, 1964). The name Trempealeau is now used in Wisconsin as a stage name (Ostrom, 1970), and the stratigraphy of the Prairie du Chien Group, of which the Oneota Dolomite is the lower formation, has been revised in the upper Mississippi Valley (Davis, 1970). Because of this, and because the Knox Dolomite is not subdivided in eastern Indiana (Gutstadt, 1958; Becker and others, 1970), the thick dolomite underlying the Knox unconformity in northwestern Ohio is assigned in this report to the undifferentiated Knox Dolomite.

The Knox Dolomite of this report is shown subdivided into Trempealeau and undifferentiated Prairie du Chien Group in a cross section by Shearrow (1966). The Trempealeau is said to be a "buff to brown and in part white to light-gray, finely to medium crystalline partly sandy dolomite." The Oneota and Shakopee Dolomites of the Prairie du Chien Group are said to be

"very similar and are composed of light-gray to buff finely to medium crystalline dolomite. Both formations contain silicified oolites, various types of chert, shale and sand. The Shakopee is generally more sandy." The New Richmond Sandstone, overlying the Oneota, "consists of fine- to medium-grained rounded frosted sandstone" and has a thickness of up to 75 feet (Shearrow, 1966, p. 42). This writer has examined the samples from the wells in which Shearrow found Prairie du Chien rocks (Sun Oil #1 Levering, Miami County; Sun Oil #1 Nelson, Shelby County; El Paso #1 Brenner, Mahoning County), but has not recognized any criteria to permit him to use Shearrow's subdivisions.

Calvert (1962) introduced the names Copper Ridge and Chepultepec Dolomites in Ohio. He traced these units from the Rose Hill district of Virginia, where Miller and Fuller (1954) had described them in outcrop. The lithology of these units as described in Calvert's text is that of the units in outcrop as described by Miller and Fuller. The lower contact of the Copper Ridge is "arbitrarily defined as the horizon above which the dark brown 'stinkstone' dolomite makes up more than 50 per cent of the strata" (Calvert, 1962, p. 28). The same definition was used by Miller and Fuller (1954, p. 45). Calvert (p. 28) placed the upper contact of the Copper Ridge "at the bottom of the lowest relatively thick sandstone bed which occurs below the conspicuous white, oolitic chert beds and above the commonly oolitic dolomite." Miller and Fuller placed the contact of the Copper Ridge with the overlying Chepultepec at the base of a prominent sandy zone. They stated, however (p. 51, 52):

> In a measured section north of Grabeels Mill on Hardy Creek . . . 2½ miles east of the Rose Hill district, an unconformity is present 148 feet below the top of the mapped Copper Ridge. It consists of a somewhat undulatory surface separating brownish-gray medium crystalline saccharoidal dolomite below, from light-gray fine-grained sandy dolomite above. Pebbles of light-gray dolomite, lenses of medium-grained sandstone, and scattered sand grains are present in the first 3 feet of beds overlying the undulatory contact . . . . Because this part of the formation is not exposed in other measured sections and because outcrops of this part of the Copper Ridge dolomite are very rare, we have not been able to establish whether the unconformity near Grabeels Mill is local or whether it represents a more widespread hiatus which has not been noted previously. If the unconformity proves to be widespread, it would make a stratigraphically more acceptable base for the Chepultepec dolomite than the one now used and would also be the first evidence from this part of the Appalachians for an unconformity between the Cambrian and Ordovician.

The problem of placing the Cambrian-Ordovician boundary, which in the Appalachian area is presumed by most workers to coincide with the contact of the Copper Ridge with the Chepultepec, was solved by Calvert (1962, p. 41-43) by moving the boundary up to make it coincide with the Knox unconformity. In discussing the boundary, Calvert asked (p. 42):

> Is not the Knox unconformity, which divides rocks characterized by great faunal change (according to Schuchert and other geologists) as well as by distinct sedimentary differences, a better place to draw a systemic boundary than an arbitrary horizon which most generally cannot be located either on the outcrop or in the subsurface?

This writer, after examining the samples, believes that the systemic boundary and the presumably coincident Copper Ridge-Chepultepec contact cannot be located in Ohio with existing control. In the #1 Hopkins in Fayette County Calvert placed this contact at depth 2,100 feet. In examining the samples from this well the writer found abundant chert only between 2,125 and 2,130 feet. This chert is brown, and oolitic probably only in small part. Traces of oolitic white chert occur in the intervals 1915-1925, 2060-2070, 2100-2105, and 2160-2165 feet. Oolitic dolomite occurs in the intervals 2035-2050 and 2060-2075 feet. Sandstone is found in trace to heavy-trace amounts in the intervals 1985-2000 and 2060-2075 feet. There is no persistent or distinct change in the dolomite in this well that could be interpreted to mark the contact between the Copper Ridge and Chepultepec Dolomites.

The writer has not found any criteria to subdivide the Knox Dolomite consistently anywhere but in eastern Ohio. It is his view that chert in the Knox is of replacement origin and that its distribution in Ohio is more controlled by depth and by distance from the mineralized area in Tennessee than by stratigraphy. It is also his view that the distribution of oolites, whether unaltered as in dolomite or replaced as in chert, is controlled probably more by facies than by stratigraphy.

By the mid-1960's, several deep tests had been drilled in eastern Ohio. In this part of the state, chert is virtually absent in the Knox Dolomite, and in order to subdivide the unit, drillers and petroleum geologists used the Rose Run sandstone as a means to this end. This sandstone, discussed elsewhere in this report, is widespread in eastern Ohio, but it is truncated to the west by the Knox unconformity. The Knox Dolomite was arbitrarily subdivided in this area into Copper Ridge below and Beekmantown above. The Rose Run is included by some as the basal portion of their Beekmantown, and by others as the uppermost portion of their Copper Ridge. In several cases, however, the base of the Rose Run is impossible to identify, except arbitrarily, and only the Beekmantown and the top of the Rose Run sandstone are then recorded. Subdivision of the Knox by means of the Rose Run sandstone was first done by McGuire and Howell (1963) in Kentucky. The method appears to have been adopted by Calvert (1963a, p. 22) in one of his later reports. The Rose Run sandstone has been truncated in the #1 Hopkins, where its stratigraphic position is several hundred feet above the contact between Calvert's Copper Ridge and Chepultepec Dolomites.

Lithology and thickness

The Knox Dolomite in Ohio consists of dolomite, sandstone, and stratigraphically and geographically restricted limestone. Neither macrofossils or microfossils have been recognized in the formation in well samples, but some cores show stromatolitic structures.

The basal Knox in south-central Ohio is gradational with the partly dolomitized bioclastic limestone of the underlying Conasauga Formation. As pointed out in the discussion of the Maynardville, the basal Knox and the uppermost Conasauga in south-central Ohio probably include strata equivalent to the Maynardville of Kentucky. Above this limestone lies a pelletal or oolitic very light-gray or very light-brown dolomicrite which to the north grades into and in places overlies sandstone of the Kerbel Formation. Farther north, in Erie and Lorain Counties, the basal Knox consists of fine-grained sandstone that overlies the medium- and coarse-grained sandstone of the Kerbel. In west-central Ohio (Allen, Mercer, and Putnam Counties), the basal 70 to 100 feet of the Knox Dolomite consists of silty microcrystalline dolomite that is overlain by about 60 feet of glauconitic siltstone and minor interbedded silty dolomite. This siltstone occupies the stratigraphic position of the Franconia Formation in Illinois. In eastern Ohio the transition from the Conasauga to the Knox is marked by the absence of sandstone above the contact.

The remainder of the Knox in Ohio consists of very light- to medium-gray and very light- to medium-brown dolomite that is pelletal and oolitic in part. The dolomite is predominantly microcrystalline, but may be very finely to medium crystalline or, rarely, coarsely crystalline. Fine- and medium-grained dolomite was noted in a few samples. Pellets and oolites are common in dolomite of the Knox and are found in many samples in association with pelletal and oolitic chert, indicating the probability that the chert is of replacement origin. Solution of pellets and oolites in dolomite or chert is common in the Knox and gives rise to the most common type of porosity in the unit. A second type of porosity is that of sucrosic dolomite, which is quantitatively unimportant. Vuggy porosity is best observed in cores of the upper Knox in Morrow County, where this porosity is associated with oil production. In other areas of the state, vuggy porosity in the Knox is rare, judging from well samples. Another type of porosity is that caused by fractures. The writer has not seen this type of porosity in the samples, but according to Fenstermaker (1968, p. 61), it is found in the Knox in Morrow County.

Siltstone and very fine-grained sandstone with silt-sized specks of glauconite occur in small amounts throughout the Knox. Where this siltstone and sandstone are abundant enough, they can be recognized on gamma ray-neutron logs. An example of one of these silty intervals is the so-called "B zone." This is a drillers' term of obscure origin, thought by some to have been coined by a logging company to subdivide the Knox in Fayette County by means of log characteristics. The "B zone" is persistent in the Knox and can be identified in central Ohio from the Ohio River to Lake Erie (pl. 6). The interval is about 50 feet thick and, in addition to varying amounts of glauconitic siltstone, consists of slightly glauconitic microcrystalline dolomite. In the #1 Hopkins the base of the zone lies 325 feet above the base of the Knox. In Erie County, adjacent to Lake Erie, the zone subcrops below the Knox unconformity and consists of glauconitic very fine-grained sandstone with good intergranular porosity. In Florence Township in Erie County the sandstone lies on a structural high with 40 feet of closure and is producing oil. Drillers refer to this local sandstone as the "Krysik sand," after the discovery well, the Sun Oil #1 Krysik-Wakefield. Additional control is necessary before the siltstone lying 70 to 100 feet above the base of the Knox in west-central Ohio can be correlated with the "B zone." The "B zone" is not recognized in much of eastern Ohio, and the siltstone of west-central Ohio is absent in Miami, Champaign, and Clark Counties.

In Sandusky, Erie, Lorain, and Medina Counties the Knox, which in this area because of truncation has a maximum thickness of only about 100 feet, contains a considerable amount of fine-grained sandstone. Southward this sandstone is supplanted by dolomite.

The only persistent sandstone in the Knox Dolomite is the Rose Run sandstone. The name is used in this report in an informal sense for a sandy zone in the Knox Dolomite. The name "Rose Run sand" was first used by Freeman (1949, p. 1661; 1953, p. 68) for about 70 feet of poorly sorted sandstone lying 330 feet below the Knox unconformity in the Judy and Young #1 Rose Run, Bath County, Kentucky. She included the Rose Run in the Elvins Group of Missouri and correlated the sandstone with the Davis Formation of that group (1953, fig. 1; fig. 15, this report). Freeman (1949, p. 1661; 1953, p. 68, 79, 222, 244, 252, 273; *in* McGuire and Howell, 1963, p. B2, B3) used Rose Run as a local name and in an informal sense. The Rose Run is considered as the basal member of the Chepultepec Dolomite by McGuire and Howell (1963), who used the base of the member in some wells as the top of the Copper Ridge Dolomite. McGuire and Howell (1963, table 2-1; fig. 15, this report) correlate the Rose Run with the Gunter Sandstone member of the Gasconade Formation of Missouri and with the Madison and Jordan Sandstones of the upper Mississippi Valley. The reason for changing the previous correlation with the Davis Formation, which lies 400 feet or more below the Gunter Sandstone, is not made clear, but presumably the change was made in order to correlate the sandstone beds in the basal Chepultepec in eastern Tennessee and in parts of Virginia with the persistent sandy zone in the Knox of Kentucky. Both Freeman

	Missouri	Central Kentucky	Upper Mississippi valley	Virginia
Lower Ordovician	Gasconade	Gasconade	Oneota	Chepultepec
	Van Buren	Van Buren		
	Eminence	Eminence		
Cambrian	Potosi	Potosi		
	Elvins Derby Doe Run Davis	Elvins Rose Run	Trempealeau	Copper Ridge
			Franconia Dresbach	
	Bonneterre	Bonneterre	Eau Claire	Nolichucky

From Freeman (1953, fig. 1 and text)

Kentucky	N.E. Tennessee S.W. Virginia	Missouri	Ohio and upper Mississippi valley	
Chepultepec	Chepultepec	Gasconade	Oneota	Lower Ordovician
Rose Run	ss beds	Gunter	Madison Jordan	
Copper Ridge	Copper Ridge	Eminence, Potosi	Trempealeau	Cambrian
		Elvins	Franconia	
Conasauga	Maynardville Nolichucky Maryville Rogersville Rutledge Pumpkin Valley	Bonneterre	Dresbach	
Rome	Rome		Eau Claire	

From McGuire and Howell (1963, table 2-1)

FIGURE 15.—Correlations of the Rose Run sandstone by Freeman (1953) and by McGuire and Howell (1963).

(1949, fig. 3; 1953, pl. 3) and McGuire and Howell (1963, fig. 2-16) showed that the distribution of the Rose Run is restricted to northeastern Kentucky. Toward central Kentucky, where its stratigraphic position is more than 1,000 feet below the Knox unconformity (McGuire and Howell, 1963, fig. 2-12), the sandstone is absent, probably by nondeposition.

The Rose Run sandstone occurs as a blanket sandstone with interbedded dolomite in eastern Ohio. The sandstone is poorly consolidated in well samples, fine to coarse grained, poorly sorted in samples, slightly dolomitic, and in places slightly glauconitic. Degree of rounding of individual grains ranges from subangular to rounded, and is predominantly subrounded. Frosted grains are common among the rounded and subrounded grains. Sandy dolomite is interbedded with the sandstone and predominates in the lower portion of the zone. The top of the Rose Run is drawn in this report at the top of the highest sandstone or sandy dolomite below nonsandy dolomite and above poorly sorted sandstone with interbedded sandy dolomite. The base of the unit is difficult to determine because of the gradational contact with the dolomite below. In general, the upper portion of the Rose Run, in which sandstone predominates over dolomite, is about 50 feet thick, and the lower portion, in which dolomite predominates over sandstone, is about 70 feet thick.

Three places are known in south-central Ohio (pl. 7, Scioto County, permit 202, Pike County, permit 1, and Ross County, permit 7) where the thickness of the Rose Run in the samples is apparently 250 feet or more. In each of these localities dolomite constitutes only a very minor portion of the total thickness. The normal thickness of the Rose Run in surrounding wells suggests to the writer that if the samples are reliable, the three thick Rose Run sections represent channel or bar sands.

Plate 7 shows the thickness of the section between the top of the Rose Run sandstone and the Knox unconformity. West of the zero isopach the Rose Run subcrops below the Knox unconformity in a relatively narrow strip, the western limit of which is poorly defined because of inadequate control. Before it was known that the Rose Run occurs in eastern Ohio, sandstone drilled in the Rose Run subcrop was referred to the St. Peter sandstone by some drillers.

Sandy strata in northwestern Pennsylvania correlative with the Rose Run are assigned to the upper sandy member of the Gatesburg Formation by Wagner (1966), who points out (p. 14) that a discrepancy exists in the correlation of the Rose Run with the upper sandy member of the Gatesburg if these sandy zones are viewed as time-stratigraphic units. The Cambrian-Ordovician boundary in Kentucky is placed below or at the base of the Rose Run (McGuire and Howell, 1963), whereas in Pennsylvania the boundary lies on top of the Gatesburg. Up to 290 feet of Gatesburg dolomite (the Mines member) overlies the upper sandy member of this formation.

A sandstone in southeastern Indiana within the Knox Dolomite and with a gross thickness of up to 405 feet was informally called the "Knox sandstone"

by Patton and Dawson (1969, p. 35). In thickness and regional stratigraphy this sandstone resembles the apparently thick Rose Run sandstone found in three wells in south-central Ohio (p. 25). In one of their cross sections (fig. 8) these authors correlate this sandstone with the Rose Run sandstone in Ross County, but they state (p. 38): "The Rose Run Sandstone in Kentucky is definitely within the Knox, but whether it correlates with the sandstone beds of the Knox in Ohio and Indiana or is a discrete sand body at a lower horizon is unknown."

The subcrop of the "Knox sandstone" as mapped by Patton and Dawson (1969, fig. 7) is shown in figure 16, which shows also the subcrop of the Rose Run sandstone in southern Ohio, the area in eastern Kentucky in which McGuire and Howell (1963, fig. 2-16) recognize the Rose Run sandstone, and the thickness of the section between the top of the Rose Run and the Knox unconformity in eastern Kentucky. If it be assumed that the Rose Run in Ohio and the "Knox sandstone" in southern Indiana are the same unit, then it is clear that the subcrop pattern of the sandstone in Ohio and Indiana is not consistent with the thickness values of the post-Rose Run Knox shown by McGuire and Howell. Additional control in the tri-state area is needed before the apparent disagreement

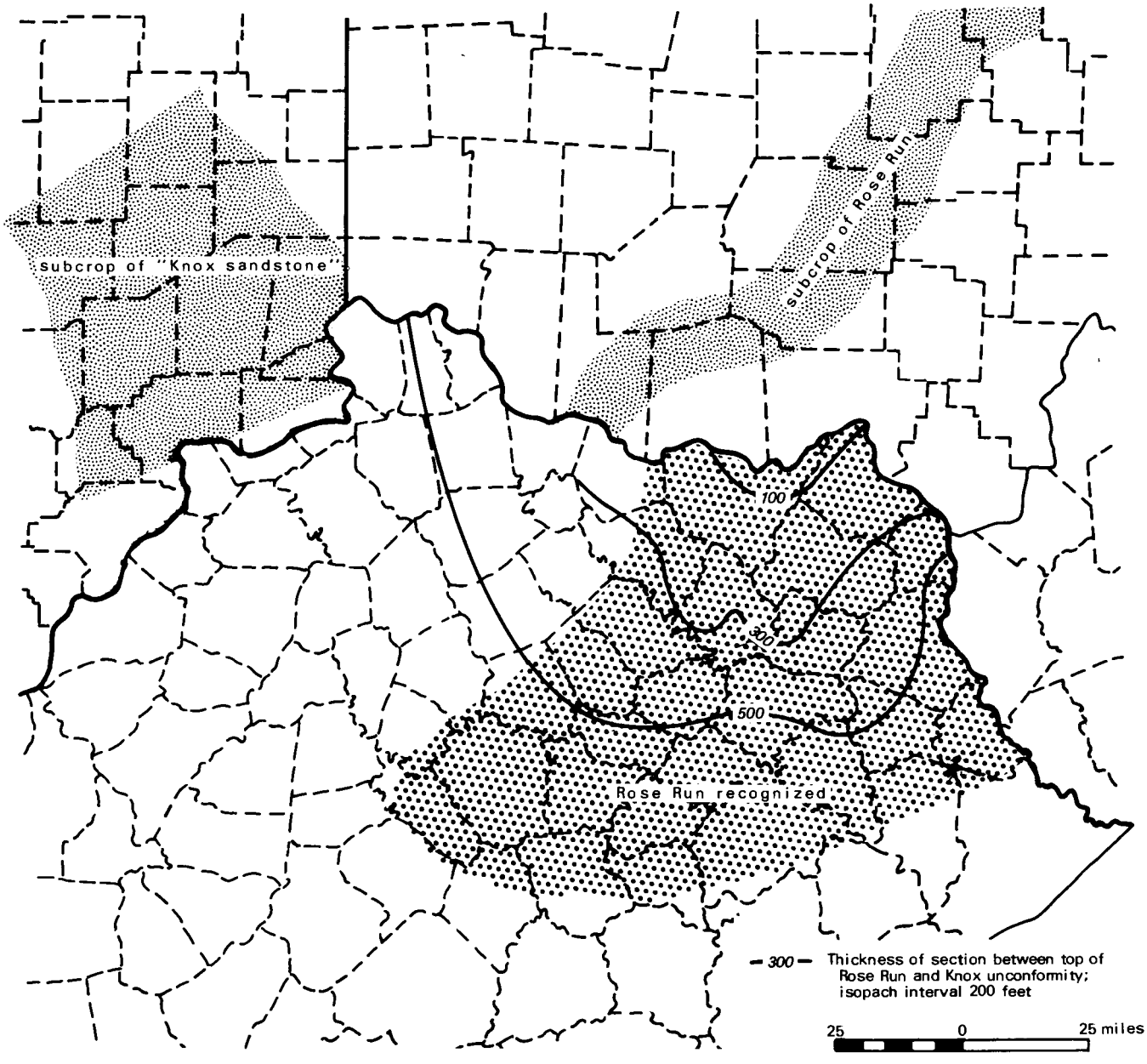


FIGURE 16.—Distribution of the Rose Run in southern Ohio and Kentucky, and subcrop of the "Knox sandstone" in southern Indiana (Kentucky information from McGuire and Howell, 1963, fig. 2-16; Indiana information from Patton and Dawson, 1969, fig. 7).

can be resolved.

The thickness of the section between the top of the Conasauga and the top of the Rose Run is shown in figure 17. Part of the reason for the southward thickening is the inclusion of probable Maynardville-equivalent strata in the basal Knox in southern Ohio. The interval thins to the north by loss of more than 700 feet of section. Available control is inadequate to account for this loss, which may be due to depositional thinning or to erosion below the Rose Run, or to a combination of both.

FIGURE 17.—Thickness of the strata between the top of the Conasauga and the top of the Rose Run.

The thickness of the entire Knox Dolomite, shown in plate 8, ranges from more than 1,100 feet in southern Ohio to zero in Ottawa County in the north. In that county the Wenner Petroleum #1 Moore drilled through 9 feet of coarse-grained sandstone immediately below the Knox unconformity before reaching total depth. Regional evidence indicates that this sandstone belongs to the Kerbel Formation and that the Knox Dolomite has been entirely truncated in this area.

The thickness pattern of the Knox shown on plate 8 is determined largely by three factors. The first of these is depositional thinning within the Knox as indicated by thinning below the "B zone" and perhaps below the Rose Run sandstone. The second factor is the local relief on top of the Knox as a result of erosion prior to the Middle Ordovician. In densely drilled areas such as Morrow County this local relief has been shown to reach about 150 feet, which is probably a representative maximum value for the state. The third factor determining the thickness of the Knox is the effect of regional truncation prior to Middle Ordovician time. Probably more than half of the rate of thinning shown on plate 8 is due to this truncation, which took place after the Sauk sequence rocks in Ohio had been gently folded into a southward-plunging anticline.

BASAL MIDDLE ORDOVICIAN

The Knox Dolomite is overlain by basal Middle Ordovician dolomite and clastics, which in turn are overlain by limestone of the Black River Formation or High Bridge Group. The strata immediately overlying the Knox Dolomite consist of green, gray, and brown shale, siltstone, sandstone, and argillaceous and sandy dolomite. Green shale and siltstone are characteristic of this section, which has been called Glenwood Shale, Glenwood-St. Peter, lower dolomite member of the Chazy Limestone, and Wells Creek Formation (preferred name in this report). Sandstone interbedded with dolomite is fine grained, but in a few places is fine to coarse grained. The thickness of individual sandstone beds as determined by log cross-plot analysis is generally 1 to 4 feet, except in some places in southwestern Ohio, where as much as 15 feet of sandstone may overlie the Knox Dolomite.

The contact between the Knox and the basal Middle Ordovician is fairly sharp, both in the samples and on gamma ray-neutron logs, because of the contrast between the clean dolomite of the Knox and the clastics and "dirty" dolomite above it.

STRUCTURE

Regional structure on top of the Sauk sequence is shown on plate 9. The choice of the top of the Knox Dolomite as a mapping surface was made despite its being an unconformity because of relatively abundant control for this surface and because the sequence below the unconformity does not contain a datum that can be used throughout Ohio.

In its general configuration the top of the Knox resembles the top of the Precambrian as mapped by Owens (1967). The attitude of both surfaces is for the most part a result of Middle through Late Paleozoic subsidence of the Michigan and Appalachian Basins. The relatively flat surface extending from west-central Ohio into Indiana was named the Indiana-Ohio platform by Green (1957, p. 634), who mapped the top of the Trenton Limestone. Northward from this platform area the regional dip increases to the north in a reflection of the subsidence of the Michigan Basin. Eastward from the platform area the regional dip steepens to the

east and southeast because of subsidence of the Appalachian Basin.

Because the surface mapped on plate 9 is an unconformity with as much as 150 feet of local relief, it is not possible to differentiate between *bona fide* structure and topography in each local anomaly. Furthermore, local structural highs with closures less than 200 feet may not be evident on the map because of the contour interval. One such local high in the northeast corner of Hardin County appears to be evident also in younger rocks. Stout (1941, p. 18) referred to the same structure when he stated:

> One of the most conspicuous, abrupt domes [on the Trenton Limestone] in the State is the Forest dome lying southwest of this town but so named on account of the producing field there. This structure centers around the village of McVitty, is elongate in outline, rises about 140 feet from the general level, and covers Jackson and Goshen townships, Hardin County, and most of Marseilles and Jackson townships, Wyandot County.

About 4,000 feet south of the town of McVitty, a quarry exposes Middle Silurian rocks instead of the Upper Silurian rocks that one would expect from regional considerations.

Slight structural nosing on the Knox Dolomite is shown on plate 9 in Ashtabula County. This feature also shows on a structure map of the G anhydrite of Late Silurian age (Clifford, 1972), indicating its Late or post-Paleozoic age.

Bowling Green monocline

The monoclinal structure in Hancock, Wood, and Lucas Counties in northwestern Ohio shown on plate 9 is named the Bowling Green monocline in this report; the name is from the city of Bowling Green, the seat of Wood County. This structure, which some previous authors have interpreted to be a high-angle reverse fault, extends northward through Findlay in Hancock County to Bowling Green in Wood County, where it swings northwestward to Waterville in Lucas County. From Waterville the monocline extends northward through Sylvania to the Michigan line. The information upon which interpretation of this structure as a monocline or a high-angle reverse fault has been based has consisted almost exclusively of top-of-Trenton data until about the 1920's, when quarry exposures made in Lucas County displayed evidence for both fault and monocline.

Probably the first mention of a structural anomaly in northwestern Ohio was made by Orton (1886, p. 28, 29) when he described the "Findlay break" in the Trenton Limestone. This Middle Ordovician formation yielded commercial gas in 1884 in the city of Findlay and was drilled by numerous oil- and gas-producing wells in succeeding years. Orton noted that west of a north-south line through the city the top of the Trenton was 100 feet to 180 feet lower than east of this line.

Through the late 1800's thousands of wells were drilled into the Trenton in northwestern Ohio in search of oil and gas, but for the most part no detailed records of these wells were kept. Maps showing the subsea elevation of the Trenton in a large number of wells were made available to the Ohio Division of Geological Survey by the Ohio Oil Company (Marathon Oil Company) in Findlay, Ohio. It is probably in large part this information upon which structure contour maps of the Trenton by Carman and Stout (1934) and by Stout and others (1935) were based. Carman and Stout (1934, fig. 1) showed a regional structure map of the Trenton in which they showed a monocline in Hancock and Wood Counties, but on a detailed map (fig. 2) they showed a fault in the position of the monocline in part of Wood County.

Stout and others (1935, p. 898) reported that

> Considerable faulting is found on top of the Cincinnati arch in Hancock and Wood Counties. It continues northwest into Michigan, developing into a sharply west-dipping homocline across the west flank of the arch in western Lucas County.

Their figure 1 shows an unfaulted monocline extending from central Hancock County to the Michigan line.

In a report on the Trenton structure in Indiana and adjacent states, Green (1957, fig. 1) showed the Bowling Green fault extending as far south as southern Wood County, but he did not discuss the fault in the text. No faults in northwestern Ohio are shown on the maps of the Precambrian by Summerson (1962) and Owens (1967), nor is the Bowling Green fault figured or discussed in the report on the Precambrian basement by Rudman and others (1965).

This author believes that all known geologic features between Hancock and Lucas Counties can be explained by the existence of a monocline. When viewed with regard only to the reported faulted and folded outcrop in Lucas County, the structural data of the Knox Dolomite shown on plate 9 and those of the Trenton Limestone reported by previous authors are likely to lead to the interpretation of a reverse fault. This is especially true for subsurface geologists, who as a rule work with a highly exaggerated sense of vertical distances. However, exposures of the monocline near Sylvania in Lucas County show that the structural relief on the Trenton and Knox in Wood and Hancock Counties can be adequately explained without postulating a fault. These exposures show the Middle Devonian Detroit River Group and Dundee Limestone dipping about 6 degrees westward. At this dip a datum within the section descends at a rate of 275 feet in half a mile. This rate of descent is a fair approximation of the maximum structural relief on either the Trenton or the Knox.

Evidence that would support the existence of a fault is the recognition of an abnormal succession in the Silurian bedrock formations in Wood or Hancock

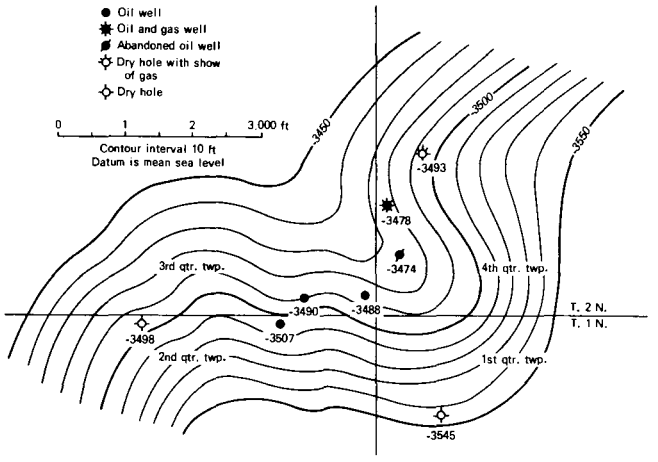


FIGURE 18.—Structure on the "pay," Newark Pool, Twps. 1 and 2 N., R. 12 W., Newark Township, Licking County.

Counties. This author during the past two years has examined all available bedrock samples in these two counties and has not found any evidence of missing or abnormally thick bedrock formations.

On the basis of these findings the writer concludes that the structural relief on the Knox Dolomite in Hancock, Wood, and Lucas Counties is due to a monoclinal fold of the Sauk and younger strata. The exposures of faulted and crushed bedrock formations in the Maumee valley near Waterville are interpreted by the writer as evidence of local structural deformation.

Waverly arch

The Waverly arch was named by Woodward (1961) from the town of Waverly in Pike County, Ohio,

> near which one of the first deep wells was drilled in 1909. Although the log of this well is still poorly understood, there is no doubt that it reveals structural abnormalities below the Chazy [bounded below by the Knox unconformity].

The width of the arch is

> on the order of 60-80 miles and its north-south length approaches 300 miles. Probably the amplitude of the arch is about 750 feet (1961, p. 1652).

Sauk rocks in Ohio shown by Woodward (figs. 6, 7, and 8) as thinning across this north- to northeast-trending structure are the undifferentiated Mt. Simon and Eau Claire, the undifferentiated Franconia and Trempealeau, and the undifferentiated Oneóta, New Richmond, and Shakopee.

The Waverly well carries the formal designation of Waverly Oil and Gas Co. #1 Donaldson. In view of the difficulties recorded by Bownocker (1910, p. 45-46) in the drilling of this well, the resultant poor quality of the samples, and the large sample intervals and the numerous intervals for which samples were not saved, it is not clear to this writer why Woodward chose this as the key well in introducing the name Waverly arch. The writer has examined the exceedingly poor samples and has concluded that the Knox unconformity may lie between 2,700 feet and 3,050 feet, though more probably between 2,800 feet and 2,900 feet. This range in possible depth to the Knox unconformity by itself does not suggest anomalous structural conditions. What probably led Woodward to believe that the section in this well, which reached a total depth of about 3,300 feet, "reveals structural abnormalities," is Bassler's (1911) observation that he found several fragments of peridotite altered to serpentine in the samples. The facts regarding the peridotite are somewhat ambiguous, however; Bownocker (1910) examined the samples but made no mention of peridotite in his description. Bassler (1911, p. 23-24) also examined the samples and described the peridotite from the "very bottom" of the well. The samples were acquired in the 1930's by the Ohio Division of Geological Survey, in whose files are unpublished sample descriptions by three different geologists who do not mention peridotite. When the writer examined the samples he found two fragments of this igneous rock, measuring up to two inches in long diameter, and one piece of Trenton Limestone in the interval labeled 2,000 feet to 2,100 feet, some 1,200 to 1,300 feet higher than the position earlier given by Bassler. From the available information it cannot be stated with certainty what the stratigraphic position of the peridotite is or whether this igneous rock was drilled in the well or is foreign to it. The occurrence of intrusive igneous rocks, including peridotites, in the Illinois-Kentucky fluorspar area (Clegg and Bradbury, 1956), where these rocks are commonly though not in each case associated with faulting, indicates that structural abnormalities are not necessarily

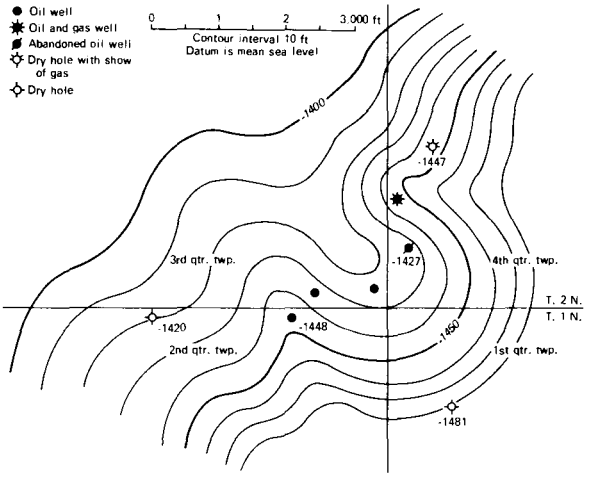


FIGURE 19.—Structure on "Packer Shell" (Silurian), Newark Pool, Twps. 1 and 2 N., R. 12 W., Newark Township, Licking County.

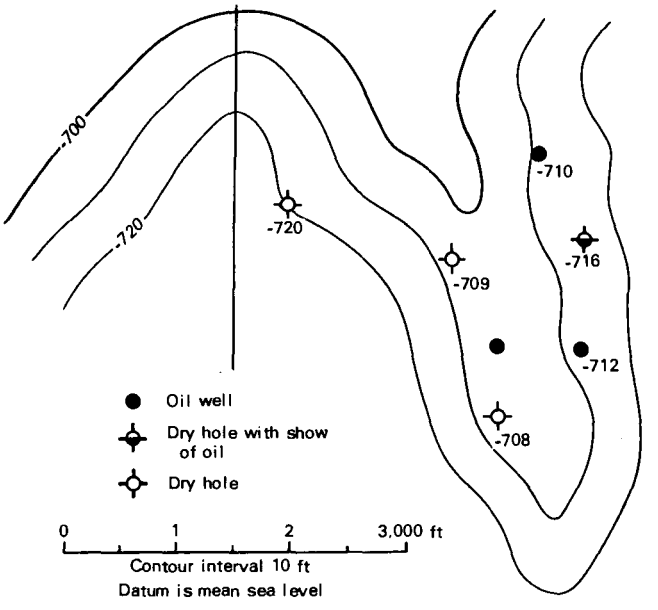


FIGURE 20.—Structure on Trenton Limestone, Tiffin Pool, sec. 7, Clinton Township, Seneca County.

associated with the possible emplacement of peridotite in the Knox Dolomite or Trenton Limestone in Pike County.

The isopach map of the Knox (pl. 8) shows that the thickness of this stratigraphic unit has been affected by thinning over an arch. A similar conclusion was first reached by Fettke (1948, p. 1487), who postulated that the arch came into existence during Early Ordovician time. As this writer has not been able to differentiate between the Cambrian and Lower Ordovician of the Knox, he is not able to confirm the accuracy of Woodward's assertion that the arch was an active element throughout Knox deposition. However, the absence of recognizable unconformities within the Knox does not support this assertion. In addition, the commonly acknowledged absence in the Knox of Ohio, Kentucky, and Indiana of marker beds that can be used to subdivide the unit almost certainly means that the Cambrian-Ordovician boundary as placed by Woodward, who relied on sample descriptions and drillers' logs (1961, p. 1644), is in error. For example, Woodward's well No. 23, the United Fuel #1 Williams in Breathitt County, Kentucky, was interpreted by him (1961, p. 1640) to have penetrated Cambrian dolomite directly below the Knox unconformity. Louise B. Clarkson (*in* McGuire and Howell, 1963, p. B-3) interpreted the same well as having penetrated 900 feet of Beekmantown (Lower Ordovician) directly below the unconformity.

Formations below the Knox Dolomite have not been affected by the arch.

OIL AND GAS

Past and present production

Oil has been produced from the Knox Dolomite in Ohio since 1919. In that year a test drilled 20 or 30 feet into the Knox in sec. 10, Claridon Township, Marion County, was completed as an oil well with an initial production of 45 barrels of oil per day. The discovery was offset by eight holes, three of which were dry; two were completed as gas wells and three as oil wells that produced fewer than 10 barrels per day.

In 1924, the Wehrle Gas Company drilled a Knox discovery well in the city of Newark, Licking County, in an area of "Clinton" sandstone (Silurian) production (fig. 18). The initial daily production of the discovery well cannot be determined; figures used on the completion report range from 50 to 150 barrels. Production came from a vuggy dolomite about 15 feet below the top of the Knox and from the basal portion of the Black River Limestone (Middle Ordovician). The discovery was offset by six holes, two of which were dry, and four of which were completed in the Knox. After producing 31,795 barrels of oil, the discovery was aban-

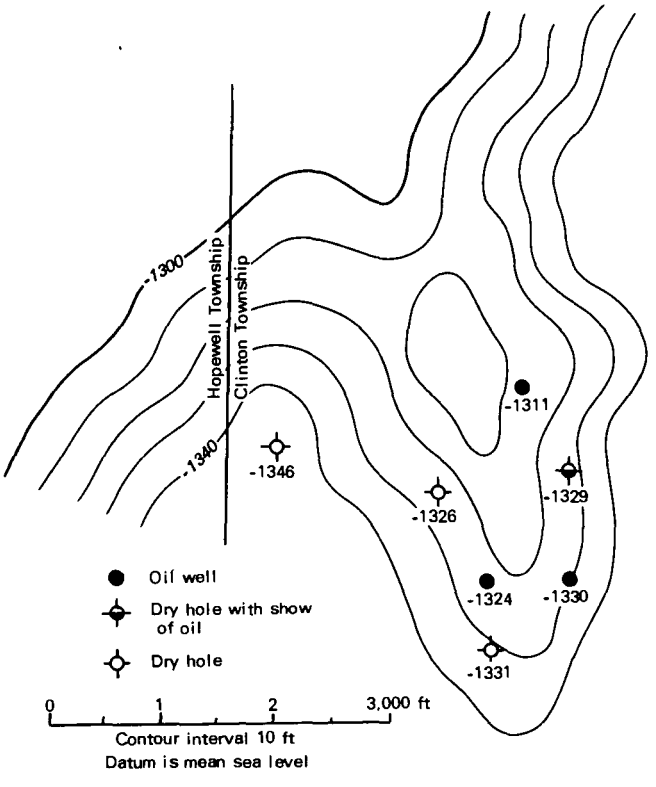


FIGURE 21.—Structure on Knox Dolomite, Tiffin Pool, sec. 7, Clinton Township, Seneca County.

doned in 1958. The available evidence indicates that the production was obtained from a structural nose that can be mapped also on the "Packer Shell," a Middle Silurian carbonate unit (fig. 19).

Sun Oil Company made a Knox discovery in 1938 in sec. 7, Clinton Township, Seneca County, near the city of Tiffin. Initial daily production of the discovery well was 120 barrels, which soon settled to 45 barrels. In ten years the well produced 21,284 barrels of oil. The reservoir rock lies 10 to 15 feet below the top of

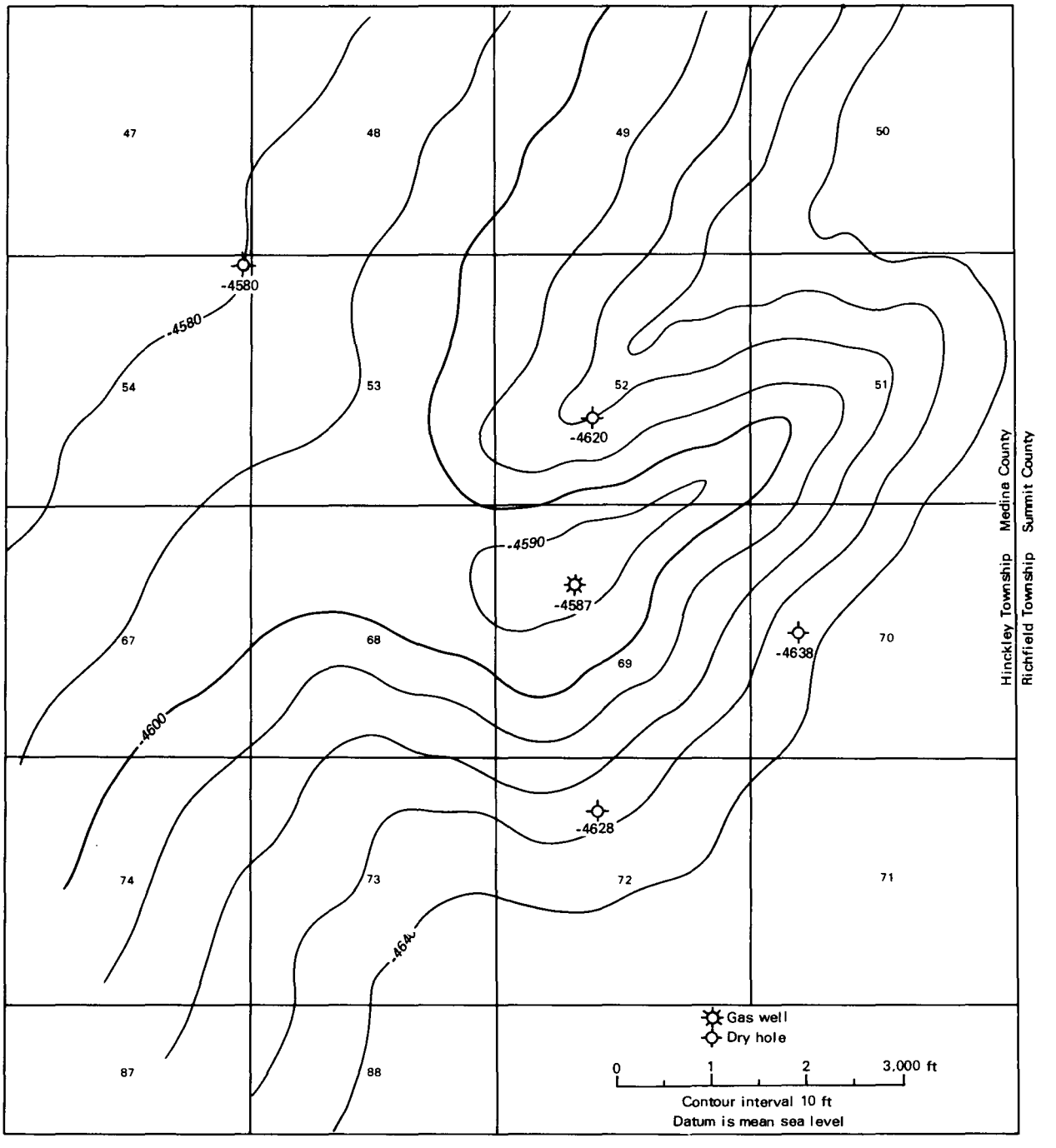


FIGURE 22.—Structure on Knox Dolomite, Hinckley Pool, Hinckley Township, Medina County.

the Knox and consists of interbedded vuggy dolomite and fine-grained sandstone. Production is associated with a structural nose that can be mapped also on the Trenton Limestone (Middle Ordovician) (figs. 20 and 21).

A joint operation consisting of Wiser Oil Company, Ohio Fuel Gas Company, and East Ohio Gas Company drilled a Precambrian test in 1959 in Hinckley Township, Medina County, and completed it as a gas discovery well in the Knox with an initial daily production of 1.2 million cubic feet of gas. The discovery, the #1-A Smith, was drilled as a geophysical prospect. Offsets drilled subsequently proved the structure to be a nose (fig. 22) that can be mapped also on the Bedford Shale (Mississippian) and on a marker bed within the Kerbel Formation. The reservoir rock is a vuggy dolomite interbedded with fine- and medium-grained sandstone. The pay section lies immediately below the Knox unconformity. Cumulative production at the end of 1971 was approximately 970 million cubic feet.

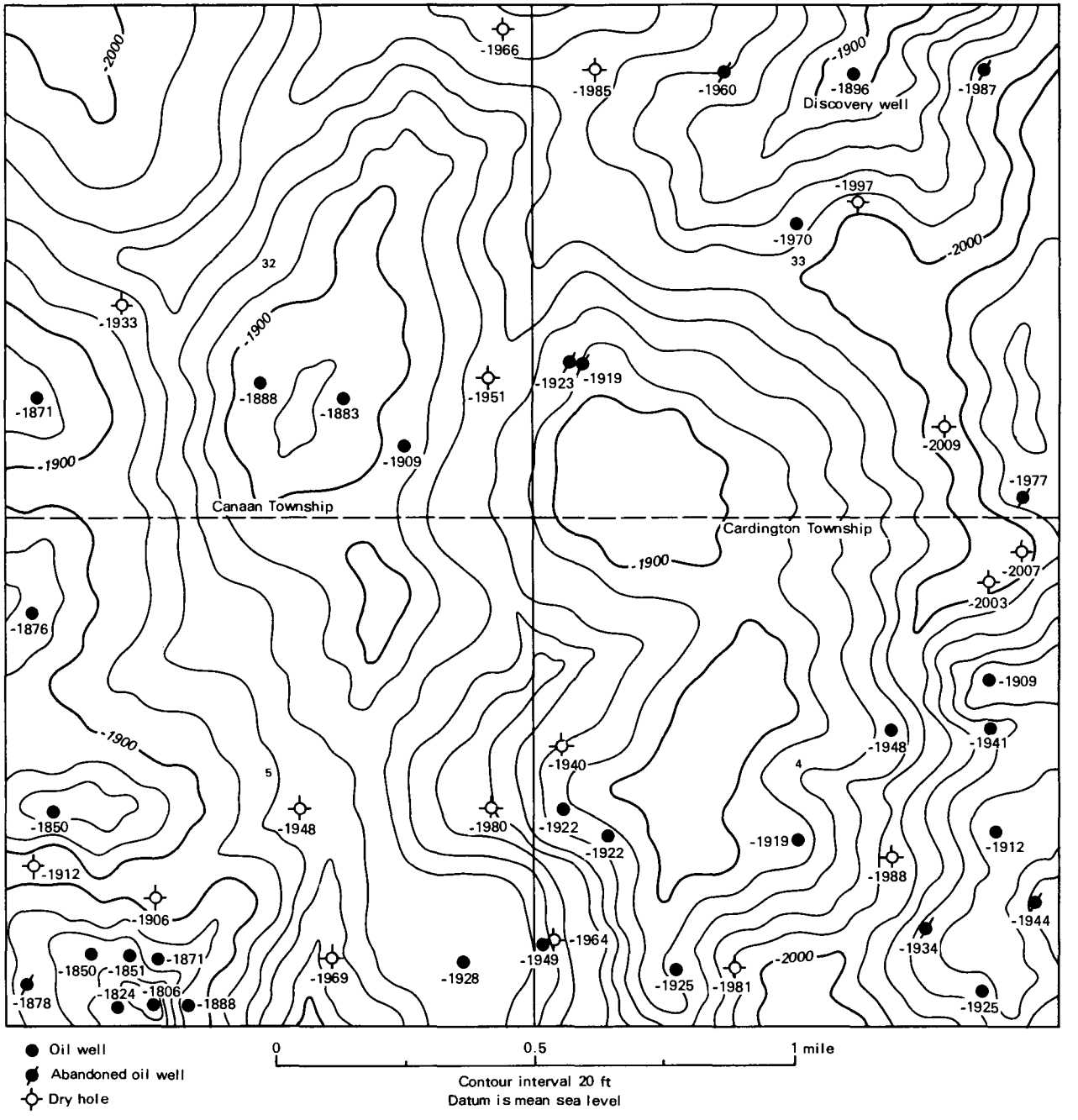


FIGURE 23.—Paleotopography of Knox Dolomite in Morrow County near discovery well (#1 Myers).

The most important discovery in the Knox made to date was made in 1961, when United Producing Company, a no-longer extant subsidiary of Union Carbide, drilled the #1 Orrie Myers in sec. 33, Canaan Township, Morrow County. The rank wildcat was drilled as a seismic prospect and was completed as an oil well with an initial daily production of 600 barrels. The pay is a vuggy dolomite at the top of the Knox. The cumulative production of the discovery well at the end of 1971 was approximately 650,000 barrels. The discovery resulted in a frenzied drilling activity that spread from Morrow County to adjacent counties. Between the time the discovery was drilled and the end of 1971, approximately 3,200 drilling permits had been issued for Morrow County.

Abundant control has shown that the top of the Knox in Morrow County is an erosional surface having more than 150 feet of local relief (fig. 23). The trap for the oil in the county is stratigraphic; the caprock in most wells is the impermeable shale and siltstone of the Wells Creek (Glenwood?) Formation (Middle Ordovician). In an unknown number of wells production is also obtained from thin porous dolomite beds in the basal Black River Limestone.

In 1964 Kin-Ark drilled the #1 Levi Erb in sec. 18, Clark Township, Holmes County, through the Rose Run sandstone, which in this test subcrops below the Knox unconformity. This test had a show of gas in the Rose Run. After the Rose Run was drill-stem tested the hole was plugged back and completed as a gas well in the "Clinton" sandstone. In 1965 an offset, the #1 Reuben Erb (fig. 24) was drilled in sec. 23 through 43 feet of upper (post-Rose Run) Knox and bottomed 110 feet below the top of the Rose Run. The test was completed as a gas well in the Rose Run with an initial daily production of 2.7 million cubic feet. Cumulative production at the end of 1971 was approximately 830 million cubic feet. Two offset dry holes were drilled subsequently. The available evidence indicates that the production comes from the uppermost two or three feet of the Rose Run sandstone, preserved in the discovery below 43 feet of Knox Dolomite, but truncated in the surrounding dry holes. Both the top of the Rose Run and a marker bed about 80 feet below the top of the sandstone in the discovery are about 15 feet higher structurally than corresponding beds in the dry holes. The structure can be mapped also on the Berea Sandstone (Mississippian).

Oil was found in Huron County in 1965, when Hefner Production Company drilled the #1 Beck to the Knox as a seismic prospect. The test was completed flowing 130 barrels per day, and in 21 months the well produced more than 72,000 barrels of oil. Development drilling outlined the (Collins) pool (fig. 25) and resulted in three oil wells (one since plugged), one combination oil and gas well, one shut-in gas well (completed for 800,000 cubic feet per day), as well as a number of dry holes. Cumulative oil production of the pool at the

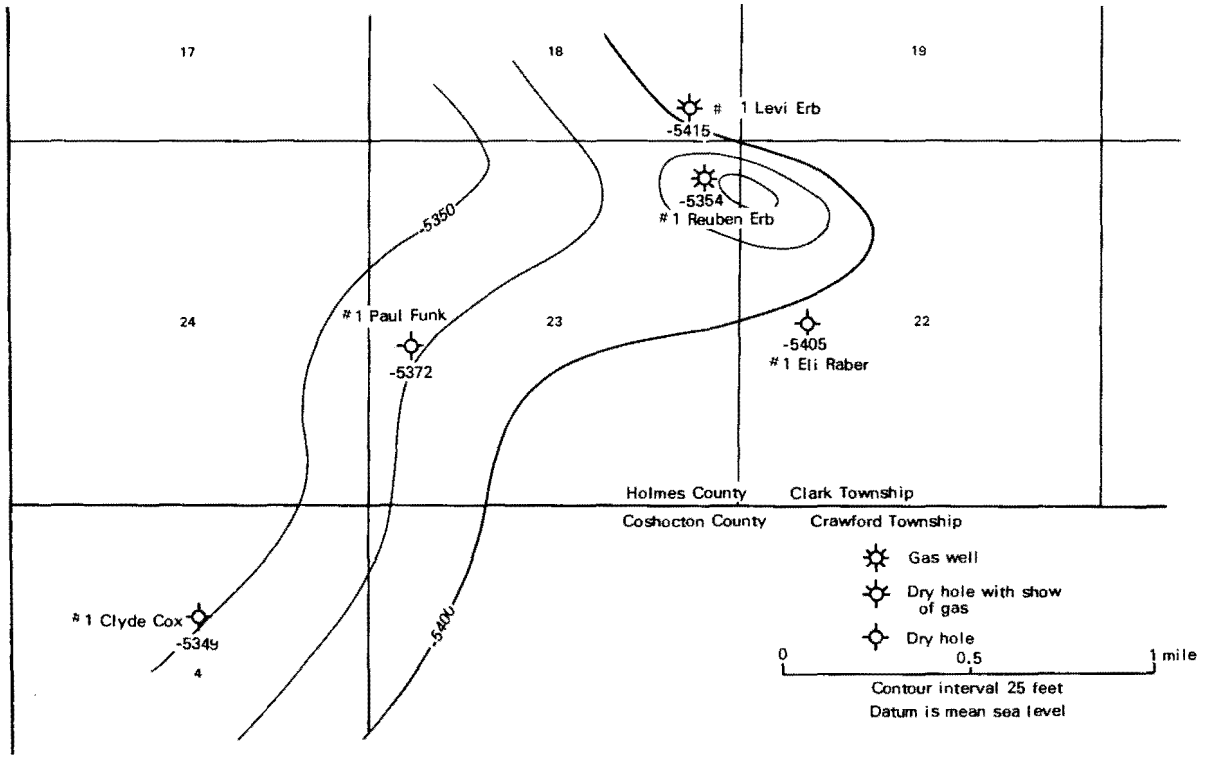


FIGURE 24.—Structure on Knox Dolomite, Baltic Field, Clark Township, Holmes County.

end of 1971 was 164,543 barrels. Production comes from a stratigraphic trap, a vuggy dolomite in erosional remnants of the Knox, capped by impermeable shale and siltstone of the Wells Creek Formation.

The discovery well (fig. 26) of the nearby South Birmingham Pool was drilled in 1966 in Florence Township, Erie County, by Sun Oil Company, joined by Amerada Petroleum Corporation, after detailed seismic work. This well, the #1 Krysik-Wakefield *et al.* unit, was completed flowing 159 barrels of oil per day and 36 barrels of water. Production is from a glauconitic fine- and medium-grained sandstone that is two to six feet thick in the pool area. Additional drilling resulted in five producers, one of which is marginal because of the large volume of water produced, and a number of dry holes. At the end of 1971 the pool had produced 533,752 barrels of oil.

The trap of the South Birmingham Pool is a structural high that can be mapped also on the Delaware Limestone (Middle Devonian) (Janssens, 1968).

Potential production

Only one show of gas has been recorded from the Mt. Simon Sandstone. This show was found in the H. & H. Production Co. #1 Pohlman in sec. 22, Spencer Township, Allen County. Porosity traps may exist throughout the state in the formation, and other stratigraphic traps may exist in western Ohio, where thick Mt. Simon with excellent porosity is bounded above and laterally by impervious Eau Claire sandstone.

No shows have been recorded from the Rome Formation. If found with structural closure or in a stratigraphic trap, reservoir rocks may be productive in eastern Ohio in the thick oolitic dark-brown Rome dolomite. The Rome sandstone in the central part of the state is considered potentially productive if traps can be found. Stratigraphic traps may exist near the western limit of the sandstone where it passes by facies change into Eau Claire sandstone.

The Conasauga Formation is rated potentially productive in northeastern Ohio where the formation consists of interbedded sandstone and dolomite. Gas shows have been recorded from the sandstone in the Kin-Ark #1 Brenner in Smith Township, Mahoning County, in the Galey #1 Gilson in Madison Township, Columbiana County, and in the Belden & Blake #1 Westfall in Marlboro Township, Stark County.

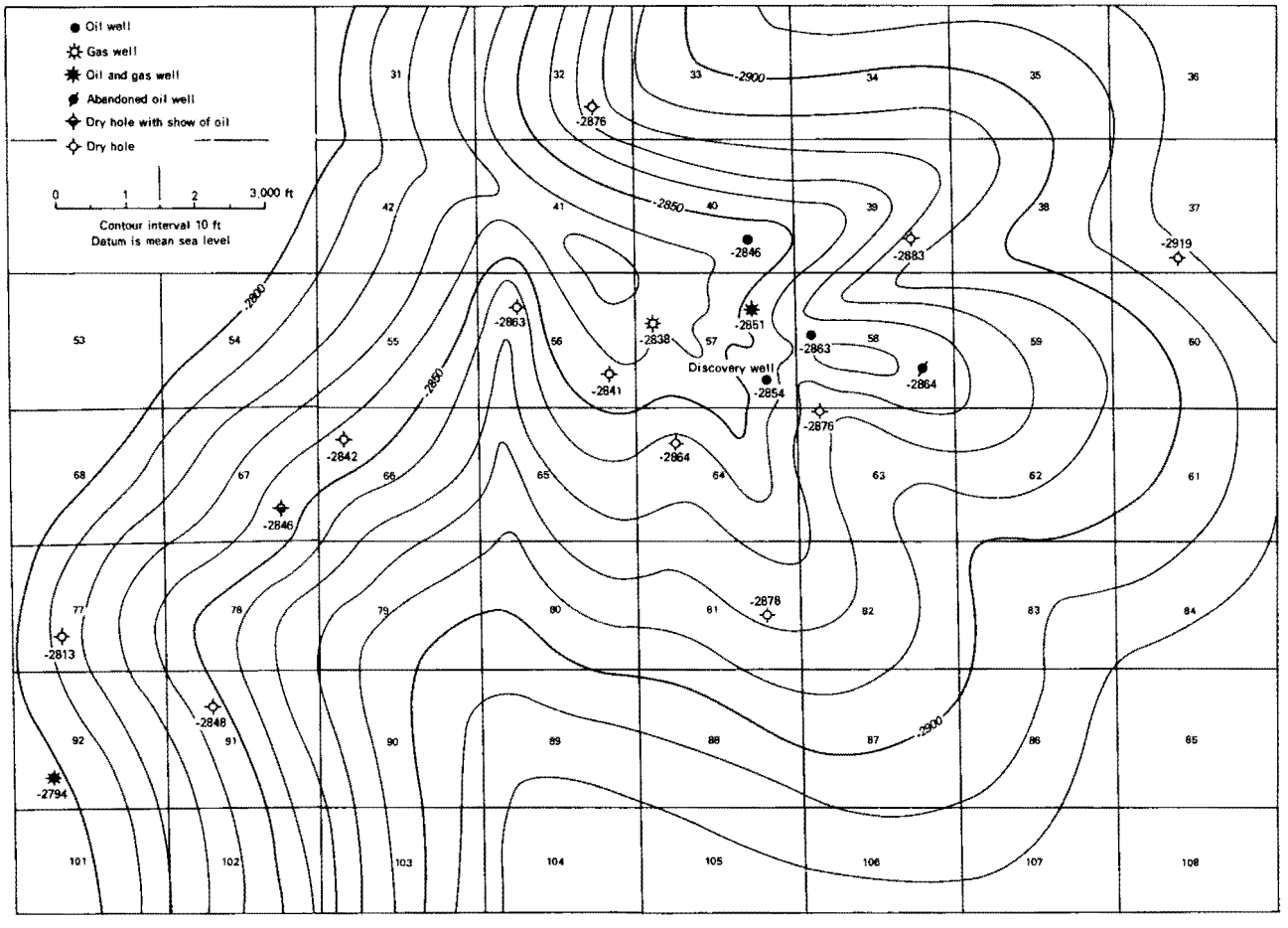


FIGURE 25.—Structure on Knox Dolomite, Collins Pool, Townsend Township, Huron County.

The Kerbel Formation is considered potentially economic. The formation has not been cored so that porosity and permeability data are not available, but good porosity and permeability of the formation are indicated by the fact that the Wenner Petroleum #1 Moore in Carroll Township, Ottawa County, had a hole full of water after drilling into the Kerbel. A slight show of oil has been reported from the "Franconia" (Kerbel?) in the C & E #1 Recker, Ballville Township, Sandusky County. In north-central Ohio production may be found in stratigraphic traps where the formation subcrops below the Knox unconformity.

The Knox Dolomite is a promising reservoir rock. The formation remains virtually untested in eastern Ohio, except in Columbiana County where 13 tests drilled into or through the formation produced encouraging gas shows. Two wells have been completed in the Knox. The East Ohio Gas #1 Denny, sec. 12, Knox Township, between June 1968 and May 1970 produced approximately 50 million cubic feet of gas; however, the well has been plagued by decreases in pressure that have rendered it noncommercial (Ebright, 1970). The second Knox completion, the Tri-State #1 Sell, sec. 7, Center Township, was put on a line, but made so much water that the hole was plugged back and completed as a "Clinton" gas well. Currently (January 1972), three tests drilled by Management Control in Knox Township have just reached total depth in the Knox. One, the #1 Johnson in sec. 28, has been plugged back to the "Clinton"; the #1 Hoffman Unit in sec. 33 is being tested as a gas well in the Knox; the status of the third test, the #1 Humphrey Unit, also in sec. 34, is unknown. Of the remaining Knox tests, three have been abandoned, one has been temporarily abandoned, and four have been plugged back and completed uphole.

Within the Knox Dolomite, the Rose Run sandstone is certain to be productive in eastern Ohio where suitable trap conditions exist. Although the main interest in the Rose Run seems to have been centered on potential stratigraphic traps along the subcrop of the unit, commercial production in the #1 Reuben Erb from

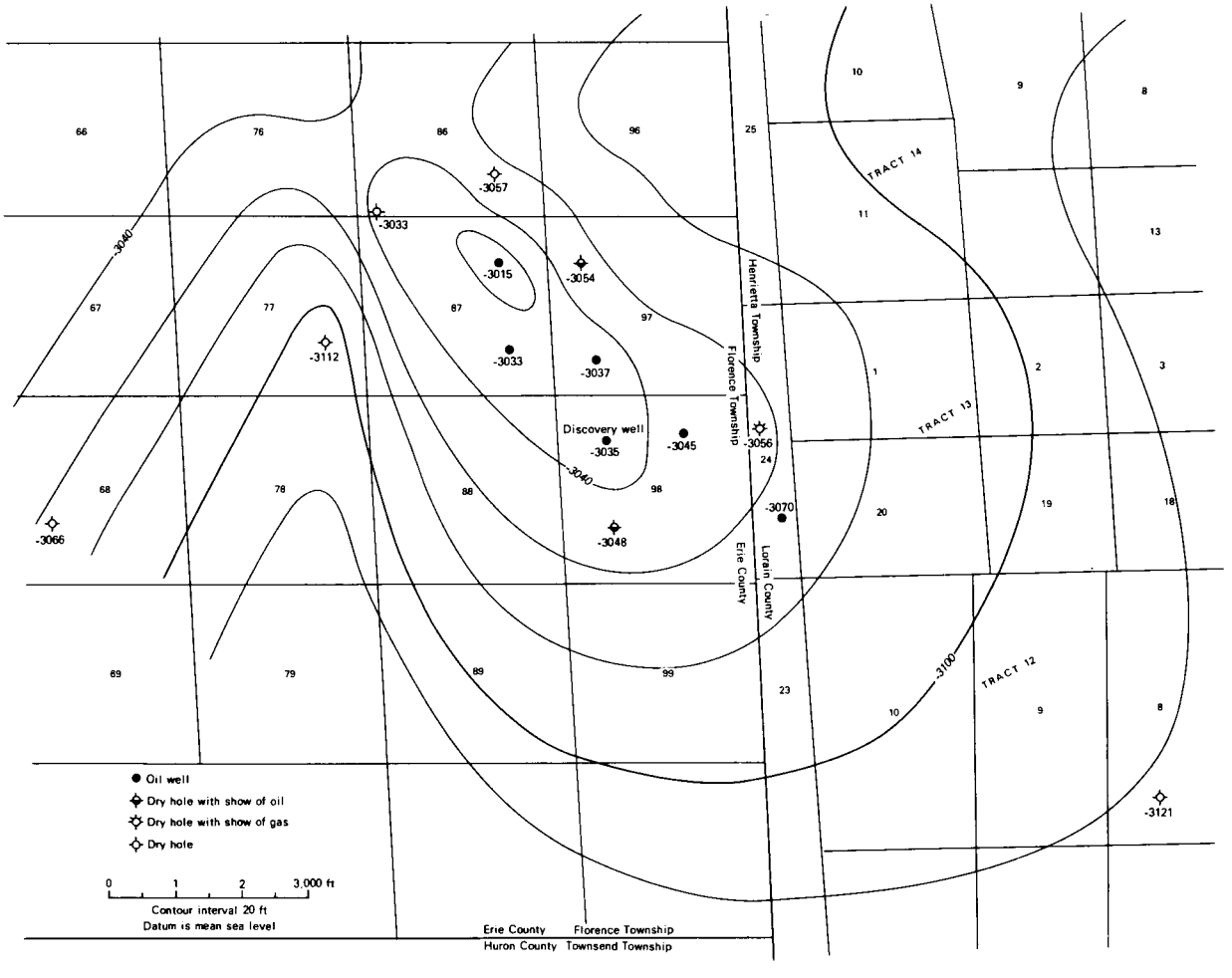


FIGURE 26.—Structure on Knox Dolomite, South Birmingham Pool, Florence Township, Erie County.

a reservoir 43 feet below the unconformity may indicate that this reservoir has primary porosity instead of the secondary porosity that the Rose Run is generally assumed to have along its subcrop.

Stratigraphic traps may be found in western Erie and adjacent Sandusky and Ottawa Counties where the "B zone" sandstone that produces oil in the South Birmingham Pool subcrops below the Knox unconformity.

In the examples discussed in this report all structural highs from which commercial production in the Knox has been obtained can be mapped also on Late Paleozoic formations. In areas in eastern Ohio where relatively abundant control is available from Berea and "Clinton" wells, local structures drawn from this control may be present on Knox and deeper rocks. However, caution should be used where the shallow formations are underlain by bedded salt (Upper Silurian) because examples are known in the Appalachian Basin of structural anomalies that have been caused by solution of salt (Kelley and McGlade, 1969) and by flowage of salt and thin-skinned faulting (Clifford, (1972) and that therefore do not exist on formations below the salt.

REFERENCES CITED

Bass, M. N., 1960, Grenville boundary in Ohio: Jour. Geology, v. 68, p. 673-677.

Bassler, R. S., 1911, The stratigraphy of a deep well at Waverly, Ohio: Am. Jour. Sci., 4th ser., v. 31, p. 19-24.

Becker, L. E., Dawson, T. A., and Patton, J. B., 1970, The Precambrian-to-Ordovician transition in Indiana: Geol. Soc. America Abs. with Programs, v. 2, no. 6, p. 376.

Bell, W. C., Berg, R. R., and Nelson, C. A., 1956, Croixan type area - upper Mississippi Valley, *in* Rodgers, John, ed., El Sistema Cámbrico, su paleogeografia y el problema de su base - symposium, pt. 2, p. 415-446.

Bissell, H. J., and Chilingar, G. V., 1967, Classification of sedimentary carbonate rocks, *in* Carbonate rocks: Developments in sedimentology, v. 9A: Amsterdam and New York, Elsevier Publishing Co., 471 p.

Bownocker, J. A., 1910, The Bremen oil field: Ohio Geol. Survey Bull. 12, 68 p.

Bucher, W. H., 1933, Cryptovolcanic structures in the United States: 16th Internat. Geol. Congress Rept., v. 2, p. 1055-1084 [1936].

Buschbach, T. C., 1964, Cambrian and Ordovician strata of northeastern Illinois: Illinois Geol. Survey Rept. Inv. 218, 90 p.

Butts, Charles, 1940, Geology of the Appalachian Valley in Virginia: Virginia Geol. Survey Bull. 52, pt. 1, 568 p.

Calvert, W. L., 1962, Sub-Trenton rocks from Lee County, Virginia, to Fayette County, Ohio: Ohio Geol. Survey Rept. Inv. 45, 57 p.

_____1963a, Sub-Trenton rocks of Ohio in cross sections from Wood County, West Virginia, to Fayette County, Illinois: Ohio Geol. Survey Rept. Inv. 48, 33 p.

_____1963b, Sub-Trenton rocks of Ohio in cross sections from West Virginia and Pennsylvania to Michigan: Ohio Geol. Survey Rept. Inv. 49, 5 p.

Carman, J. E., and Stout, Wilber, 1934, Relationship of accumulation of oil to structure and porosity in the Lima-Indiana field, *in* Problems of petroleum geology: Tulsa, Am. Assoc. Petroleum Geologists, p. 521-529.

Clegg, K. E., and Bradbury, J. C., 1956, Igneous intrusives in Illinois and their economic significance: Illinois Geol. Survey Rept. Inv. 197, 19 p.

Clifford, M. J., 1972, The role of Silurian salt in discordance between deep and shallow structure in Ohio (abs.), *in* Programs and abstracts: 1st Ann. mtg., Eastern section, Am. Assoc. Petroleum Geologists, p. 11; Bull., v. 56, p. 2107-2108.

Cohee, G. V., 1945, Sections and maps of Lower Ordovician and Cambrian rocks in the Michigan Basin, Michigan and adjoining areas: U.S. Geol. Survey Oil and Gas Inv. Prelim. Chart 9.

_____1948, Cambrian and Ordovician rocks in Michigan Basin and adjoining areas: Am. Assoc. Petroleum Geologists Bull., v. 32, p. 1417-1448.

Condit, D. D., 1913, Deep wells at Findlay, Ohio: Am. Jour. Sci., 4th ser., v. 36, p. 123-130.

Davis, R. A., Jr., 1970, Prairie du Chien Group in the upper Mississippi Valley, *in* Field trip guidebook for Cambrian-Ordovician geology of western Wisconsin – Geol. Soc. America, Ann. mtg., Milwaukee 1970: Wisconsin Geol. and Nat. History Survey Inf. Circ. 11, p. 35-44.

Dunbar, C. O., and Rodgers, John, 1957, Principles of stratigraphy: New York, John Wiley & Sons, 356 p.

Ebright, J. R., 1970, Ohio wells head for the cellar: Oil and Gas Jour., v. 68, no. 21, p. 108-114.

Ells, G. D., 1967, Correlation of Cambro-Ordovician rocks in Michigan, *in* Correlation problems of the Cambrian and Ordovician outcrop areas, Northern Peninsula of Michigan – Michigan Basin Geol. Soc., Ann. field excursion 1967: East Lansing, Mich., Michigan Basin Geol. Soc., p. 42-57.

Fenstermaker, C. D., 1968, Resume of current activity of the oil industry northeast of the Mississippi

River - geographic, geologic - and magnitude of recent years' discoveries: Kentucky Geol. Survey, ser. 10, Spec. Pub. 17, p. 50-77.

Fettke, C. R., 1948, Subsurface Trenton and sub-Trenton rocks in Ohio, New York, Pennsylvania, and West Virginia: Am. Assoc. Petroleum Geologists Bull., v. 32, p. 1457-1492.

Freeman, L. B., 1949, Regional aspects of Cambrian and Ordovician subsurface stratigraphy in Kentucky: Am. Assoc. Petroleum Geologists Bull., v. 33, p. 1655-1681.

_____1953, Regional subsurface stratigraphy of the Cambrian and Ordovician in Kentucky and vicinity: Kentucky Geol. Survey, ser. 9, Bull. 12, 352 p.

Green, D. A., 1957, Trenton structure in Ohio, Indiana, and northern Illinois: Am. Assoc. Petroleum Geologists Bull., v. 41, p. 627-642.

Gutstadt, A. M., 1958, Cambrian and Ordovician stratigraphy and oil and gas possibilities in Indiana: Indiana Geol. Survey Bull. 14, 103 p.

Hamblin, W. K., 1958, Cambrian sandstones of northern Michigan: Michigan Geol. Survey Pub. 51, 149 p.

Harris, L. D., 1964, Facies relations of exposed Rome Formation and Conasauga Group of northeastern Tennessee with equivalent rocks in the subsurface of Kentucky and Virginia: U.S. Geol. Survey Prof. Paper 501-B, p. B25-B29.

Hayes, C. W., 1891, The overthrust faults of the southern Appalachians: Geol. Soc. America Bull., v. 2, p. 141-154.

Heiskanen, W. A., and Uotila, U. A., 1956, Gravity survey of the State of Ohio: Ohio Geol. Survey Rept. Inv. 30, 34 p.

Hite, D. M., 1967, Re-examination of the Jacobsville, *in* Correlation problems of the Cambrian and Ordovician outcrop areas, Northern Peninsula of Michigan–Michigan Basin Geol. Soc. Ann. Field Excursion 1967: East Lansing, Mich., Michigan Basin Geol. Soc., p. 79-81.

Hofmann, C. M., Faure, Gunter, and Janssens, A., 1972, Age determination of a granite gneiss from the Precambrian basement of Scioto County, Ohio: Ohio Jour. Sci., v. 72, p. 49-53.

Janssens, A., 1968, Stratigraphy of Silurian and pre-Olentangy Devonian rocks of the South Birmingham Pool area, Erie and Lorain Counties, Ohio: Ohio Geol. Survey Rept. Inv. 70, 20 p.

_____1970, Preliminary report on the Sauk sequence in Ohio: Geol. Soc. America Abs. with Programs, v. 2, no. 6, p. 391.

Keith, Arthur, 1903, Cranberry quadrangle [North Carolina-Tennessee] U.S. Geol. Survey Geol. Atlas, Folio 90, 9 p.

Kelley, D. R., and McGlade, W. C., 1969, Medina and Oriskany production along the shore of Lake Erie, Pierce field, Erie County, Pennsylvania: Pennsylvania Geol. Survey Bull. M60, 38 p.

Lidiak, E. G., Marvin, R. F., Thomas, H. H., and Bass, M. N., 1966, Geochronology of the Mid-continent region, U.S., pt. 4, Eastern area: Jour. Geophys. Research, v. 71, no. 22, p. 5427-5438.

McCormick, G. R., 1961, Petrology of Precambrian rocks of Ohio: Ohio Geol. Survey Rept. Inv. 41, 60 p.

McGuire, W. H., and Howell, Paul, 1963, Oil and gas possibilities of the Cambrian and Lower Ordovician in Kentucky: Lexington, Kentucky, Spindletop Research Center, [216] p.

McLaughlin, D. B., 1954, Suggested extension of the Grenville orogenic belt and the Grenville front: Science, v. 120, p. 287-289.

Miller, R. L., and Fuller, J. O., 1954, Geology and oil resources of the Rose Hill district - fenster area of the Cumberland overthrust block - Lee County, Virginia: Virginia Geol. Survey Bull. 71, 383 p.

Oder, C. R. L., 1934, Preliminary subdivision of the Knox Dolomite in east Tennessee: Jour Geology, v. 42, p. 469-497.

Orton, Edward, 1886, Preliminary report upon petroleum and inflammable gas: Columbus, Ohio, Westbote Company, 76 p.

Ostrom, M. E., 1966, Cambrian stratigraphy in western Wisconsin–Michigan Basin Geol. Soc. Ann. field conf. 1966: Wisconsin Geol. and Nat. History Survey Inf. Circ. 7, 79 p.

_____1967, Paleozoic stratigraphic nomenclature for Wisconsin: Wisconsin Geol. and Nat. Hist. Survey Inf. Circ. 8, 1 sheet.

_____1970, Sedimentation cycles in the Lower Paleozoic rocks of western Wisconsin, *in* Cambrian-Ordovician geology of western Wisconsin:–Geol. Soc. America ann. mtg., Milwaukee, 1970: Wisconsin Geol. and Nat. History Survey Inf. Circ. 11, p. 7, 10-34.

Owens, G. L., 1967, The Precambrian surface of Ohio: Ohio Geol. Survey Rept. Inv. 64, 8 p.

Patton, J. B., and Dawson, T. A., 1969, Some petroleum prospects of the Cincinnati arch province: Kentucky Geol. Survey, ser. 10, Spec. Pub. 18, p. 32-39.

Pepper, J. F., De Witt, Wallace, Jr., and Demarest, D. F., 1954, Geology of the Bedford Shale and Berea Sandstone in the Appalachian Basin: U.S. Geol. Survey Prof. Paper 259, 111 p.

Rodgers, John, 1953, Geologic map of Tennessee with explanatory text: Tennessee Div. Geol. Bull. 58, pt. 2, 168 p.

_____1956, The known Cambrian deposits of the southern and central Appalachians, *in* Rodgers, John, ed., El Sistema Cámbrico, su paleogeografia y el problema de su base - symposium, pt. 2, p. 353-384.

Rudman, A. J., Summerson, C. H., and Hinze, W. J., 1965, Geology of basement in midwestern United States: Am. Assoc. Petroleum Geologists Bull.,

v. 49, p. 894-904.

Safford, J. M., 1869, Geology of Tennessee: Nashville, Tennessee, 550 p.

Sanford, B. V., and Quillian, R. G., 1959, Subsurface stratigraphy of Upper Cambrian rocks in southwestern Ontario: Canada Geol. Survey Paper 58-12, 33 p.

Shearrow, G. G., 1957, Geologic cross section of the Paleozoic rocks from northwestern to southeastern Ohio: Ohio Geol. Survey Rept. Inv. 33, 42 p.

_____1966, Paleozoic rocks in Ohio, *in* Stratigraphic cross section of Paleozoic rocks, Colorado to New York: Am. Assoc. Petroleum Geologists Cross Section Pub. 4, p. 41-45.

Sloss, L. L., Krumbein, W. C., and Dapples, E. C., 1949, Integrated facies analysis, *in* Longwell, C. R., chairman, Sedimentary facies in geologic history: Geol. Soc. America Memoir 39, p. 91-123.

Stose, G. W., 1906, The sedimentary rocks of South Mountain, Pennsylvania: Jour. Geology, v. 14, p. 201-220.

Stout, Wilber, 1941, Dolomites and limestones of western Ohio: Ohio Geol. Survey Bull. 42, 468 p.

Stout, Wilber, Lamborn, R. E., Ring, D. T., Gillespie, J. S., and Lockett, J. R., 1935, Natural gas in central and eastern Ohio, *in* Geology of natural gas: Am. Assoc. Petroleum Geologists, p. 897-914.

Stout, W. E., and Lamey, C. A., 1940, Paleozoic and pre-Cambrian rocks of Vance well, Delaware County, Ohio: Am. Assoc. Petroleum Geologists Bull., v. 24, p. 672-692.

Summerson, C. H., 1962, Precambrian in Ohio and adjoining areas: Ohio Geol. Survey Rept. Inv. 44, 16 p.

Thomas, G. R., 1960, Geology of recent deep drilling in eastern Kentucky: Kentucky Geol. Survey, ser. 10, Spec. Pub. 3, p. 10-28.

Wagner, W. R., 1966, Stratigraphy of the Cambrian to Middle Ordovician rocks of central and western Pennsylvania: Pennsylvania Geol. Survey Rept. G-49, 156 p.

Walcott, C. D., 1914, Cambrian geology and paleontology: Smithsonian Misc. Coll., v. 57, p. 345-412.

Wasson, I. B., 1932, Sub-Trenton formations in Ohio: Jour. Geology, v. 40, p. 673-687.

Woodward, H. P., 1961, Preliminary subsurface study of southeastern Appalachian Interior Plateau: Am. Assoc. Petroleum Geologists Bull., v. 45, p. 1634-1655.

APPENDIX A - SAMPLE DESCRIPTIONS

Allen County
Shawnee Township
Section 2

Vistron Corporation #1
Standard Oil Co. (Ohio)
Permit No. 67
Sample No. 2129
Elevation (KB) 872 feet

Depth (ft)	
	Samples above 1750 feet not examined
1750 - 1810	Limestone, very light- and light-brown, lithographic to fine-grained, fossiliferous. Dolomite, light- and medium-brown, fine-grained; trace. Shale, light-grayish-green, silty; trace
1810 - 1820	As above. Siltstone, light-grayish-green; trace
1820 - 1825	Limestone as above, minor. Dolomite, white, finely and medium-crystalline, slightly glauconitic
1825 - 1830	Limestone as above. Dolomite as above, minor
1830 - 1835	Limestone as above
1835 - 1840	Limestone as above, silty
1840 - 1860	Dolomite, white to very light-gray, finely crystalline, very slightly glauconitic, sandy (very fine- and fine-grained sand). KNOX DOLOMITE at 1840 feet
1860 - 1870	Dolomite as above, very light-gray and very light- and light-brown. Limestone cavings from 1865 to 1870 feet
1870 - 1885	Dolomite, very light- to medium-brown, finely crystalline
1885 - 1895	Dolomite, very light-gray and very light- to medium-brown, finely crystalline
1895 - 1925	Dolomite, very light-gray and very light-brown, finely crystalline; becoming very finely crystalline at 1910 feet (no samples from 1900 to 1910 feet). Bentonite cavings from 1920 to 1925 feet
1925 - 1935	Dolomite, very light-gray and very light-brown, very finely and finely crystalline, slightly sandy (very fine- and fine-grained sand)
1935 - 2000	Dolomite, very light- and light-brown, very finely and finely crystalline, slightly pyritic
2000 - 2010	Dolomite, light- and medium-brown, finely and medium-crystalline
2010 - 2040	Dolomite, very light- and light-brown, finely and medium crystalline
2040 - 2100	Dolomite as above, predominantly medium crystalline
2100 - 2120	Dolomite, very light- and light-brown, very finely and finely crystalline
2120 - 2140	Dolomite as above, medium crystalline in part
2140 - 2155	Dolomite, white to very light- and light-brown, finely crystalline
2155 - 2185	Dolomite, white to very light-brown, microcrystalline and finely crystalline
2185 - 2200	Dolomite, white to very light-brown, microcrystalline and finely crystalline, sandy (very fine-grained sand)
2200 - 2205	Dolomite, very light- to medium-brown, very finely and finely crystalline, silty; argillaceous in part
2205 - 2210	No samples
2210 - 2220	Dolomite as in sample from 2200 to 2205 feet
2220 - 2225	Dolomite, very light- to medium-brown, very finely and finely crystalline, silty
2225 - 2230	Sandstone, white, very fine-grained, dolomitic, very slightly glauconitic
2230 - 2240	Dolomite, white to medium-brown, microcrystalline and finely crystalline, silty
2240 - 2250	Dolomite as above; 30-50% sandstone as in sample from 2225 to 2230 feet
2250 - 2265	Dolomite, light-brown, very finely and finely crystalline; very slightly glauconitic in part
2265 - 2270	Dolomite as above, very light and light brown
2270 - 2275	Dolomite, very light- to medium-brown, very finely and finely crystalline, slightly glauconitic; medium and coarse grained in part. Sandstone, dark-brown, very fine-grained, micaceous; trace
2275 - 2290	Dolomite as above. Siltstone, light-brown, slightly dolomitic, slightly glauconitic
2290 - 2295	Dolomite and siltstone as above, siltstone micaceous and argillaceous
2295 - 2300	Dolomite as above, minor. Siltstone, light-brownish-gray, glauconitic; micaceous in part; argillaceous in part. Shale, red to dark-gray, silty, micaceous; minor
2300 - 2320	As above, shale dark gray
2320 - 2325	Dolomite, very light- and light-brown, microcrystalline and finely crystalline; silty in part
2325 - 2330	No samples
2330 - 2340	Dolomite as in sample from 2320 to 2325 feet
2340 - 2370	Dolomite, very light- to medium-brown, very finely to medium-crystalline; silty in part
2370 - 2400	Dolomite, very light-brown, microcrystalline and very finely crystalline, very slightly sandy (very fine-grained sand)
2400 - 2405	Dolomite, very light- and light-brown to light-gray, very finely and finely crystalline, sandy (fine-grained sand)
2405 - 2420	Dolomite as above, light brown
2420 - 2430	Dolomite as above. Sandstone, light-brownish-gray, very fine-grained, glauconitic. EAU CLAIRE FORMATION at 2420 feet
2430 - 2435	As above, dolomite glauconitic
2435 - 2495	Dolomite as above, minor. Sandstone as above. Shale, light- and medium-gray, micaceous
2495 - 2510	Shale, medium-gray to greenish-gray; 50%. Sandstone, very light-brown and light-brownish-gray, very fine-grained, micaceous, glauconitic. Limestone and dolomite, light-brown, finely and medium-crystaliine, sandy, glauconitic
2510 - 2530	Shale as above. Sandstone as above (fossil fragment in sample from 2520 to 2525 feet). Limestone and dolomite as above, trace
2530 - 2600	Shale as above, in part brown to reddish brown. Sandstone as above. Dolomite as above, trace
2600 - 2605	No samples
2605 - 2610	Sandstone, pink, very fine- and fine-grained, glauconitic, micaceous; in part hematitic. Shale, medium-greenish-gray to reddish-brown; trace. Dolomite, very light-brown, coarsely crystalline, glauconitic; trace
2610 - 2620	Sandstone as above, light and medium gray, argillaceous. Shale and dolomite as above, trace

2620 - 2625	No samples
2625 - 2630	Sandstone, pink to light- and medium-gray, very fine- and fine-grained, glauconitic, very slightly hematitic
2630 - 2650	As above, nonhematitic
2650 - 2655	No samples
2655 - 2670	Sandstone as above with laminations of reddish-brown shale. Dolomite, white to very light-brown, coarsely crystalline, fossiliferous(?); trace
2670 - 2685	As above. Shale, reddish-brown to medium-grayish-brown; heavy trace
2685 - 2690	No samples
2690 - 2705	Sandstone, pink to light- and medium-gray, very fine- and fine-grained, glauconitic, micaceous; shale partings. Shale, reddish-brown; trace. Dolomite, white to very light-brown, dense to coarsely crystalline, fossiliferous(?), glauconitic; trace
2705 - 2775	As above, shale in part light- and medium-greenish-gray to brownish-gray
2775 - 2785	Sandstone as above, fine and medium grained. Shale and dolomite as above, trace
2785 - 2794	No samples *Core chips from 2794 feet to TD*
2794 - 2812	Sandstone, pink to light-gray, fine-grained, slightly glauconitic, crossbedded; laminated with shale partings in places; glauconite pellets concentrated on crossbed planes
2812 - 2821	Sandstone as above, interbedded with fine- and medium-grained light-gray to yellowish-gray sandstone; intergranular porosity; biotite flakes; quartz sand grains angular
2821 - 2830	Sandstone as above, with a few coarse grains
2830 - 2832	Sandstone, light-gray, very fine- and fine-grained, very glauconitic
2832 - 2833	Sandstone, light-yellowish-gray, fine-grained, slightly glauconitic, slightly biotitic
2833 - 2834	Sandstone as in sample from 2830 to 2832 feet
2834 - 2838	Sandstone, pink, fine-grained. MT. SIMON SANDSTONE at 2834 feet
2838 - 2856	Sandstone, pink to light-gray, fine- to coarse-grained (predominantly fine and medium); brachiopod mold at 2851 feet
2856 - 2857	Sandstone as above, with shaly and micaceous partings
2857 - 2861	Sandstone, pink, fine-grained; minor proportion of medium-sized grains; brachiopod mold at 2857 feet
2861 - 2862	Sandstone, light-yellowish-gray to pink, fine- to coarse-grained, poorly sorted
2862 - 2871	Sandstone, pink, fine-grained; in part laminated with gray to black shaly and micaceous partings
2871 - 2872	Sandstone, light-gray to pink, medium-grained; containing soft dull platy black material (brachiopod valve?)
2872 - 2873	Sandstone as above, glauconitic; containing brachiopod valve
2873 - 2874	Sandstone as in sample from 2871 to 2872 feet, fine grained
2874 - 2875	Sandstone, very light-gray, fine-grained, very glauconitic, fossiliferous; shaly laminations
2875 - 2877	Sandstone, light-gray to pink, fine-grained; shaly laminations; some biotite; chitinous(?) material
2877 - 2878	Sandstone as above, glauconitic
2878 - 2883	Sandstone as in sample from 2874 to 2875 feet, light gray to pink
2883 - 2884	Sandstone, pink, fine-grained
2884 - 2885	Sandstone, pink, fine-grained, very glauconitic; glauconite concentrated on undulating bedding planes; shaly laminations
2885 - 2889	Sandstone, pink, fine-grained
2889 - 2892	Sandstone, pink, fine- and medium-grained; a few coarse and rounded grains; laminated in part with shaly partings
2892 - 2895	Sandstone, pink, fine-grained, very fossiliferous; shaly laminations
2895 - 2897	Sandstone, pink, fine-grained; shaly laminations; a few coarse and rounded grains from 2896 to 2897 feet
2897 - 2898	No samples
2898 - 2912	Sandstone, pink, fine-grained, fossiliferous; chitinous(?) material and shaly laminations scattered irregularly through the interval; trace of glauconite from 2906 to 2907 and 2909 to 2912 feet
2912 - 2914	Sandstone, light-gray, fine-grained, very glauconitic, fossiliferous; shaly laminations (as sandstone in sample from 2874 to 2875 feet)
2914 - 2919	Sandstone, pink, fine-grained, containing chitinous(?) and carbonaceous material
2919 - 2921	Sandstone, pink, fine- and medium-grained; a few coarse grains
2921 - 2922	Sandstone, pink and colorless, coarse-grained
2922 - 2926	Sandstone, pink and colorless, fine-grained; layers of medium- and coarse-grained sand
2926 - 2927	Sandstone, colorless, coarse-grained; grains rounded
2927 - 2939	Sandstone, pink, predominantly fine-grained; layers of fine- to coarse-grained sandstone; pyrite laminations from 2932 to 2933 feet; shaly laminations from 2938 to 2939 feet
2939 - 2940	Sandstone, colorless, fine- to coarse-grained, poorly sorted, fossiliferous; containing biotite
2940 - 2948	Sandstone, pink and colorless, fine-grained, fossiliferous; containing biotite and carbonaceous material; shaly laminations; light-green clayey laminations from 2942 to 2943 feet
2948 - 2949	Sandstone as above, fine to coarse grained
2949 - 2952	Sandstone as in sample from 2940 to 2948 feet, fine and medium grained
2952 - 2955	Sandstone, colorless and pink, medium- and coarse-grained
2955 - 2956	Sandstone, pink, fine-grained
2956 - 2961	Sandstone as in sample from 2952 to 2955 feet, colorless and pink sand grains alternating in some chips
2961 - 2966	Sandstone, pink, predominantly fine-grained; containing carbonaceous material and shaly partings
2966 - 2967	Sandstone, light-gray, medium-grained; good intergranular porosity
2967 - 2969	Sandstone, pink, fine-grained; containing a layer of coarse sand grains
2969 - 2970	Sandstone, light-gray to pink, poorly sorted (many coarse grains in fine-grained matrix)
2970 - 2971	Sandstone, light-gray; fine and medium grained in alternating irregular layers
2971 - 2972	Sandstone, light-gray, medium-grained; good intergranular porosity
2972 - 2975	Sandstone as above, fine to coarse grained, poorly sorted
2975 - 2978	Sandstone, colorless, coarse-grained (much secondary quartz growth on rounded to subrounded grains); good intergranular porosity
2978 - 2979	Sandstone, pink, fine-grained; minor amount of coarse-grained sand
2979 - 2980	Sandstone, colorless, medium-grained
2980 - 2982	Sandstone as in sample from 2978 to 2979 feet, containing shaly and micaceous partings
2982 - 2983	Sandstone, colorless, medium- and coarse-grained; good intergranular pososity
2983 - 2984	Sandstone, pink to light-gray, fine-grained; shaly laminations
2984 - 2985	Sandstone, colorless, medium-grained
2985 - 2986	Sandstone, pink, fine-grained; a few coarse

grains
2986 - 2987 Sandstone, colorless, medium- and coarse-grained; good intergranular porosity
2987 - 2989 Sandstone, pink, fine- to coarse-grained
2989 - 2990 Sandstone, colorless, fine- to coarse-grained, poorly sorted; stained dark brownish red with clay
2990 - 2991 Sandstone as above, crossbedded
2991 - 2992 Sandstone, colorless, medium- and coarse-grained
2992 - 2993 Sandstone, pink, coarse-grained; containing much gray clay in matrix and laminated with reddish-brown (hematitic?) shale or clay
2993 - 2994 Sandstone, colorless to pink, medium- and coarse-grained; good intergranular porosity
2994 - 2997 Sandstone as in sample from 2992 to 2993 feet
2997 - 2999 Sandstone, colorless, coarse- and very coarse-grained; inclusions of bright-green clay; good intergranular porosity
2999 - 3000 No samples
3000 - 3002 Sandstone, white to light-gray, medium- and coarse-grained; good intergranular porosity
3002 - 3003 Sandstone as in sample from 2992 to 2993 feet
3003 - 3005 Sandstone as in sample from 3000 to 3002 feet
3005 - 3011 Sandstone, fine- and medium-grained; stained red with hematite; clayey hematite concentrated in layers in some chips; a few layers of poorly sorted fine- to coarse-grained sandstone
3011 - 3012 Sandstone, pale-pink to colorless, fine- to coarse-grained; laminated, with sorted layers
3012 - 3013 Sandstone, fine-grained, hematitic
3013 - 3014 Sandstone, white, medium- and coarse-grained
3014 - 3015 Sandstone, fine- to coarse-grained, hematitic
3015 - 3016 Sandstone, fine-grained, hematitic; containing a semicircular patch of fine-grained white sandstone
3016 - 3017 Sandstone, medium-grained, hematitic; scattered coarse grains
3017 - 3018 Sandstone as in sample from 3014 to 3016 feet, medium grained
3018 - 3019 Sandstone, medium- and coarse-grained, hematitic
3019 - 3025 Sandstone, fine- and medium-grained, hematitic; fine to coarse grained from 3022 to 3023 feet; some clayey hematite concentrated in layers
3025 - 3026 Sandstone, very coarse-grained, hematitic
3026 - 3033 Sandstone, hematitic, fine- and medium-grained; crossbedded in part; zones of good intergranular porosity; fine to coarse grained from 3031 to 3033 feet
3033 - 3034 Sandstone, hematitic, fine- to very coarse-grained; clayey matrix; poorly sorted
3034 - 3035 Sandstone, white, fine- and medium-grained
3035 - 3037 Sandstone, hematitic, fine- to coarse-grained, poorly sorted; hematite in some chips restricted to lenses within white sandstone
3037 - 3043 Sandstone, light-brown, hematitic, medium- and coarse-grained; patches of white sandstone
3043 - 3046 Sandstone, fine- to coarse-grained; irregularly stained red in white matrix or stained red in layers
3046 - 3047 Sandstone, white, fine- to coarse-grained (predominantly medium)
3047 - 3050 Sandstone as in sample from 3043 to 3046 feet, conglomeratic; pebbles well rounded
3050 - 3053 Sandstone, white and red, fine- to coarse-grained, poorly sorted; red clay in matrix and in layers
3053 - 3055 Sandstone, white, fine- and medium-grained; stained red in part
3055 - 3056 Sandstone, hematitic, fine-grained, micaceous
3056 - 3057 Sandstone, white to red, fine- to coarse-grained, poorly sorted, crossbedded
3057 - 3058 Siltstone, red, clayey and sandy
3058 - 3060 Sandstone, white, fine- to coarse-grained, poorly sorted; stained red in part
3060 - 3063 As above, laminated with red clay; becoming medium grained and well sorted at 3062 feet
3063 - 3065 Sandstone, red to white, medium- and coarse-grained
3065 - 3067 Sandstone as above, much red clay in matrix
3067 - 3068 Sandstone, white, poorly sorted, conglomeratic
3068 - 3069 Sandstone, red, medium- and coarse-grained, much red clay in matrix
3069 - 3070 Sandstone, white, fine- to very coarse-grained, poorly sorted; red in part
3070 - 3073 Sandstone, white to pink, predominantly fine-grained; stained red in part
3073 - 3078 No samples
3078 - 3079 Sandstone, red to pink (layered), medium- and coarse-grained
3079 - 3080 Sandstone, red, conglomeratic
3080 - 3081 Sandstone, white to red, predominantly medium-grained, moderately sorted
3081 - 3088 Sandstone, white to red, fine- to coarse-grained to conglomeratic; poorly sorted; coarse grains rounded, except for cleaved (feldspar) grains; much red clay in matrix in some chips
3088 - 3089 Sandstone, red, medium-grained, well-sorted
3089 - 3092 Sandstone, white to pink, fine-grained, well-sorted; stained red in part
3092 - 3094 Sandstone as above, fine and medium grained
3094 - 3095 No samples
3095 - 3099 Sandstone, red to white to pink, fine- and medium-grained; crossbedded in part; crossbedding shown by concentrations of red clay on bedding planes
3099 - 3104 Sandstone, red to white, conglomeratic; much red clay in matrix
3104 - 3111 Sandstone, pink, fine- to coarse-grained; stained red in part; conglomeratic from 3106 to 3111 feet
3111 - 3127 Sandstone, white to pink, fine- to coarse-grained, poorly sorted; stained red in part; conglomeratic (fine- to very coarse-grained) in part; crossbedded from 3114 to 3115 feet; vertical fractures (open) from 3115 to 3116, 3118 to 3119, 3123 to 3124 feet; conglomerate stained with hematite at 3127-(?) feet
TD core chips 3127 feet

Ashland County
Ruggles Township
Lot 4, 1st Quarter

Ohio Oil Co. #1 Krause
Permit No. 246
Sample No. 149
Elevation (G) 1114 feet

Depth (ft)
4407 - 4414 Limestone, light- to dark-brown, lithographic; 20%. Dolomite, light- and medium-gray, brown and grayish-brown, microcrystalline (dolosiltite), silty and argillaceous; sucrosic in part; 80%. Shale, medium- and dark-grayish-green; trace
4414 - 4436 Siltstone, very light-yellowish-brown, light-gray, dolomitic. Shale, dark-brown; trace
4436 - 4441 Siltstone, very light- and light-brown, dolomitic
4441 - 4450 Siltstone as above; 90%. Shale, dark-gray, brown, micaceous, silty; 10%
4450 - 4469 As above, some fine-grained sand in siltstone
4469 - 4485 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite). Shale, dark-gray, greenish-gray; heavy trace. KNOX DOLOMITE at 4469 feet
4485 - 4529 Dolomite, very light to light-brown, grayish-brown, microcrystalline (dolosiltite)

4529 - 4543	Dolomite as above, silty; 70%. Siltstone, very light-gray, light- and medium-gray; very micaceous in part; 30%
4543 - 4550	Siltstone as above. Dolomite as above, grading into siltstone
4550 - 4556	Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite), silty
4556 - 4564	Dolomite, very light-gray and brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline, slightly sandy (fine-grained sand), very slightly glauconitic; dolomite rhombs
4564 - 4573	Dolomite, light-brown, microcrystalline, very slightly glauconitic; 90%. Siltstone, very light- and light-gray, very slightly glauconitic; 10%
4573 - 4579	Siltstone, very light-grayish-brown to light-brownish-gray, slightly dolomitic; very micaceous in part
4579 - 4594	Siltstone as above, in part dolomitic; very slightly glauconitic; grading into dolomite
4594 - 4648	Dolomite, very light-brown to grayish-brown, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand)
4648 - 4653	Dolomite as above, very light gray and brown
4653 - 4659	Dolomite as above, grading into fine- and and medium-grained sandstone
4659 - 4663	Dolomite, very light- and light-brown, microcrystalline, slightly sandy (fine-grained sand)
4663 - 4667	Dolomite, very light-gray to white, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand); very fine sample
4667 - 4677	Dolomite, very light-brown, brownish-gray, microcrystalline (dolosiltite), very sandy (fine- and medium-grained sand). KERBEL FORMATION at 4667 feet
4677 - 4683	Dolomite as above, grading into fine- and medium-grained sandstone with some coarse-grained sand
4683 - 4740	Sandstone as above, very friable; predominantly fine grained from 4709 to 4740 feet
4740 - 4746	Sand, fine- and medium-grained (predominantly fine); 90%. Siltstone, medium- and dark-gray, slightly dolomitic, slightly sandy (very fine-grained sand); 10%. CONASAUGA FORMATION at 4740 feet
4746 - 4762	Sandstone, very light-gray, predominantly fine-grained, slightly glauconitic. Siltstone as above, heavy trace
4762 - 4780	Sandstone as above, very fine- and fine-grained; silty shale laminations from 4767 to 4780 feet
4780 - 4785	Dolomite, very light-gray, brown, microcrystalline (dolosiltite), very sandy (fine- and medium-grained sand); very fine sample. ROME FORMATION at 4780 feet
4785 - 4787	Dolomite as above, grading into fine-grained sandstone
4787 - 4809	Sandstone, very light-brown, gray, fine-grained, very friable
4809 - 4828	Dolomite as in sample from 4780 to 4785 feet (dolomicrite and dolosiltite); very fine sample
4828 - 4856	Dolomite, very light-gray, microcrystalline (dolosiltite) to finely crystalline, sandy (very fine- and fine-grained sand)
4856 - 4874	Dolomite, very light- and light-gray, brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand); a few fine-grained pellets
4874 - 4893	Dolomite as above, very light and light gray, predominantly microcrystalline (dolosiltite)
4893 - 4923	Dolomite as above, dolomicrite and dolosiltite
4923 - 4960	Dolomite as above, very light and light gray, brown
4960 - 5033	Dolomite as above, very sandy, grading into very friable sandstone
5033 - 5070	Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolomicrite and dolosiltite), pelletal, sandy (very fine- and fine-grained sand); very fine sample
5070 - 5085	Dolomite as above, very sandy, oolitic
5085 - 5090	Sandstone, fine-grained, very friable, dolomitic
5090 - 5114	Dolomite, medium-brown and gray, microcrystalline (dolomicrite and dolosiltite), oolitic, pelletal, sandy (fine- to coarse-grained sand); grading into sandstone
5114 - 5125	Sandstone as above, 80%. Dolomite as above, 20%. MT. SIMON SANDSTONE at 5115 feet
5125 - 5141	Sand, broken; probably fine to coarse grained; predominantly rounded and frosted; secondary faces
5141 - 5152	Sand as above, iron stained
5152 - 5171	Sand as in sample from 5125 to 5141 feet, iron stained in part
5171 - 5184	Sand, fine- and medium-grained (predominantly fine), angular (predominantly) to rounded and frosted
5184 - 5189	Sand as above, predominantly medium grained
5189 - 5219	Sand, fine- to coarse-grained (predominantly medium), angular to rounded and frosted
5219 - 5229	Sand, fine-grained, angular
5229 - 5251	Sand, fine- to coarse-grained (predominantly fine), angular
	TD 5251 feet

Ashtabula County
Pierpont Township
Lot 60

East Ohio Gas Co. #1 Brayman
Permit No. 193
Sample No. 1833
Elevation (KB) 977 feet

Depth (ft)	
	Samples above 5900 feet not examined
5900 - 5910	Limestone, light- and medium-brown, lithographic to micrograined; dolomitic and argillaceous in part. Shale, dark-gray, dolomitic
5910 - 5925	Limestone and shale as above. Shale, light- to dark-green; trace
5925 - 5955	Limestone, very light-yellowish-brown and light-brown, lithographic; pelletal in part; becoming micrograined in part
5955 - 5965	Limestone as above, medium brown. Shale, dark-gray; trace
5965 - 5970	Limestone as above
5970 - 5975	Limestone and shale as above
5975 - 5985	Shale, dark-gray to greenish-gray, dolomitic. Limestone as above, trace
5985 - 5995	Limestone as above. Shale as above, minor
5995 - 6000	Siltstone, very light- and light-gray, sandy and dolomitic. Limestone and shale as above, trace
6000 - 6005	Siltstone, limestone, and shale as above, equal proportions
6005 - 6010	Limestone and shale as above. Shale, light- to medium-grayish-green to green. Siltstone, trace
6010 - 6015	Limestone and shale as above
6015 - 6020	Shale as above. Sand, fine (almost medium in part), subangular to rounded and frosted. KNOX DOLOMITE at 6016 feet (GRN), ROSE RUN sandstone at unconformity
6020 - 6030	Sand as above, fine and medium grained
6030 - 6035	Sand as above. Shale, blue-green; trace
6035 - 6040	No sample
6040 - 6050	Sand as above
6050 - 6060	Sand as above. Dolomite cement, trace
6060 - 6070	Sand, very fine- and fine-grained, subangular to rounded. Dolomite, very light-gray to brownish-gray, microcrystalline and very

finely crystalline

6070 - 6080 Cavings

6080 - 6090 No sample

6090 - 6100 Sandstone, light-yellowish-gray, fine- and medium-grained, siliceous, moderately sorted; a few coarse grains

6100 - 6110 Sandstone as above. Dolomite, light-yellowish-gray and very light-yellowish-brown, fine-grained and finely crystalline, silty. Base ROSE RUN sandstone at 6105 feet

6110 - 6120 Dolomite, light-brown and light-yellowish-gray to yellowish-brown, microcrystalline to finely crystalline; silty in part. Sandstone as above (cavings?), heavy trace

6120 - 6130 Dolomite, very light-grayish-brown, microcrystalline and very finely crystalline, sandy (most sand grains fine, a few medium and coarse)

6130 - 6170 Dolomite as above, light brown; some pinpoint porosity

6170 - 6190 Dolomite as above, very fine to medium grained

6190 - 6250 Dolomite, light-brown and very light-yellowish-gray to yellowish-brown, very fine- to medium-grained, silty, sandy; some pinpoint porosity

6250 - 6260 Dolomite, light-brown, microcrystalline and very finely crystalline

6260 - 6270 Dolomite, very light-yellowish-brown and light-brown, very fine- and fine-grained, silty

6270 - 6290 Dolomite as above, sandy (very fine- and fine-grained sand); some pinpoint porosity

6290 - 6300 Dolomite as above. Sandstone, colorless, fine-grained, dolomitic; grains subangular to subrounded; minor

6300 - 6330 Dolomite, light-yellowish-brown to medium-brown, microcrystalline to finely crystalline, silty and sandy (rounded and frosted sand). CONASAUGA FORMATION at 6328 feet (GRN)

6330 - 6370 Dolomite as above. Sandstone, fine- and medium-grained, dolomitic; trace. Siltstone, trace

6370 - 6390 Dolomite, light- and medium-brown, microcrystalline to finely crystalline, silty and very sandy (subrounded to rounded and frosted fine- to coarse-grained sand)

6390 - 6410 Dolomite as above, finely and medium crystalline

6410 - 6440 Dolomite, very light- and light-brownish-gray, slightly silty, very sandy, very finely to medium-crystalline; grading into moderately sorted (few coarse grains) fine-grained sandstone

6440 - 6460 Sandstone, fine-grained, glauconitic, silty, dolomitic. Dolomite, glauconitic; sandy as above

6460 - 6480 Sandstone and dolomite as above. Sand, medium- and coarse-grained, subrounded and rounded; heavy trace

6480 - 6500 Dolomite, medium- and dark-brown and light- and medium-gray, finely and medium-crystalline, slightly sandy (subangular and subrounded fine-grained sand). ROME FORMATION at 6480 feet (GRN)

6500 - 6510 Dolomite, light-yellowish-gray, finely and medium-crystalline, sandy (subangular to rounded fine- to coarse-grained sand)

6510 - 6540 Dolomite as above, minor portion grading into poorly sorted fine- to coarse-grained sandstone. Dolomite, light- to medium-brown, oolitic or pelletal

6540 - 6550 No sample

6550 - 6580 Dolomite, light-brown to grayish-brown and very light-yellowish-brown, finely crystalline, sandy (fine- to coarse-grained sand); piece of pelletal dolomite in sample from 6560 to 6570 feet

6580 - 6590 Dolomite as above, very sandy in part; grading into medium- to coarse-grained sandstone with subrounded to rounded grains

6590 - 6610 Dolomite, light-yellowish-gray and very light-yellowish-brown, finely crystalline, slightly sandy

6610 - 6680 Dolomite, very light- and light-grayish-brown to yellowish-brown and medium- and dark-brown, very finely to medium-crystalline, silty, slightly sandy; pelletal in part; some pinpoint porosity

6680 - 6710 Dolomite as above, in part coarse grained

6710 - 6730 Dolomite as above. Sandstone, medium- and dark-gray, fine-grained, silty, dolomitic; trace

6730 - 6740 Dolomite, light-gray and yellowish-gray, microcrystalline and very finely crystalline, sandy (angular fine-grained sand), pelletal. Sandstone, light-yellowish-gray, fine- and medium-grained, dolomitic

6740 - 6750 Dolomite as above (subangular to rounded fine- and medium-grained sand). Dolomite, cherty and oolitic (sand grain as nucleus in oolite); trace

6750 - 6770 Dolomite as above. Dolomite, with black oolites or pellets; trace. Sandstone, medium-grained, dolomitic; trace

6770 - 6780 Dolomite, very light-brown and oolitic as in sample from 6730 to 6740 feet. Dolomite, light-gray to brownish-gray, medium-grained, sandy; dark-brown and black oolites. Sandstone, medium- and coarse-grained, dolomitic; trace. MT. SIMON SANDSTONE at 6778 feet (GRN)

6780 - 6800 Dolomite as above. Sandstone as above, oolitic; trace

6800 - 6830 Dolomite as above, oolitic; minor. Sandstone, fine- to coarse-grained (predominantly coarse), siliceous (dolomitic in part); grains angular and subrounded

6830 - 6840 No sample

6840 - 6870 Sandstone as above? (90% of sample shale cavings)

6870 - 6880 Sand as above

6880 - 6916 Sand as above. Sandstone, light-yellowish-gray to white, fine- to coarse-grained, siliceous; dolomitic in part. PRECAMBRIAN at 6892 feet (GRN)

TD samples 6916 feet

Ashtabula County
Trumbull Township
Lot 30, 3rd Quarter

Horizon Oil #1 Rhoa
Permit No. 191
Sample No. 1680
Elevation (KB) 984 feet

Depth (ft)

Samples poor because of shale cavings

5870 - 5880 Limestone, light-brown, fine-grained, dolomitic. Limestone, medium-brown, lithographic to dense

5880 - 5890 Limestone as above. Shale, light-green; trace

5890 - 5920 Limestone as above. Shale, dark-green; trace

5920 - 5930 Limestone as above. Shale as above, sandy in part (rounded fine- and medium-grained sand). Siltstone, dolomitic, sandy (very fine-grained sand). KNOX DOLOMITE at 5925 feet (GRN), ROSE RUN sandstone at unconformity

5930 - 5940 Shale as above. Sandstone, fine- to coarse-grained, siliceous, poorly sorted; grains rounded. Siltstone as above

5940 - 5950 Shale as above. Dolomite, very light-brown, very finely and finely crystalline, silty

5950 - 5960 Dolomite, very light- and light-brown and yellowish-brown, very finely and finely crystalline, silty and sandy (very fine- to medium-

	grained sand)
5960 - 6000	Dolomite as above, very slightly glauconitic in part
6000 - 6070	Dolomite as above (very fine and fine-grained sand), not glauconitic
6070 - 6080	Dolomite as above, some pinpoint porosity
6080 - 6100	Dolomite as in sample from 6000 to 6070 feet
6100 - 6140	Dolomite as above, very sandy
6140 - 6150	Dolomite as above, very sandy (very fine- to medium-grained sand)
6150 - 6160	Dolomite as above, very sandy (very fine and fine-grained sand). CONASAUGA FORMATION at 6158 feet (GRN)
6160 - 6170	Dolomite, very light-brown and yellowish-brown, very finely and finely crystalline, sandy to very sandy (fine- and medium-grained sand). Dolomite, medium- and dark-brown, medium-grained, sandy. Sandstone, fine-grained, slightly dolomitic
6170 - 6180	Dolomite as above
6180 - 6190	Dolomite as above. Sandstone as in sample from 6160 to 6170 feet
6190 - 6200	Dolomite, light-yellowish-gray to very light-yellowish-brown, finely crystalline, very sandy (fine-grained sand). Sandstone, fine-grained, slightly dolomitic
6200 - 6240	Dolomite and sandstone as above, both with fine- to coarse-grained sand (predominantly fine); part of dolomite light and medium brown
6240 - 6250	Sandstone and dolomite as above (sandstone predominating), both with predominantly medium-grained sand
6250 - 6270	Sandstone and dolomite as above, both with fine-grained sand
6270 - 6280	Dolomite as above, with mica flakes
6280 - 6290	No samples
6290 - 6310	Sandstone, fine-grained, slightly dolomitic, silty, very slightly glauconitic. Siltstone, light-brown and light-gray, micaceous, very slightly glauconitic, slightly dolomitic
6310 - 6320	Dolomite, medium- and dark-grayish-brown, very finely and finely crystalline, silty to very silty. Siltstone, medium- and dark-grayish-brown, slightly dolomitic, slightly glauconitic
6320 - 6340	As above, dolomite and siltstone in part light gray and light brown to yellowish gray and yellowish brown. ROME FORMATION at 6334 feet (GRN)
6340 - 6350	Dolomite, very light-yellowish-gray, light- and medium-brown, very finely and finely crystalline, very slightly glauconitic, silty. Siltstone as above, trace
6350 - 6400	Dolomite, light- and medium-brown and light-gray to yellowish-gray, finely and medium-crystalline, oolitic (one fragment), sandy (predominantly angular fine- to medium-grained sand); some of oolitic dolomite grading into sandstone
6400 - 6420	Dolomite, light-yellowish-gray, finely crystalline, slightly sandy (angular fine- to coarse-grained sand); slight pinpoint porosity
6420 - 6460	Dolomite as above, in part light brown to yellowish brown
6460 - 6470	Dolomite as above, light yellowish gray
6470 - 6490	Dolomite, light-yellowish-gray and very light- and light-yellowish-brown, very finely and finely crystalline, silty and sandy (angular fine-grained sand), pelletal
6490 - 6510	Dolomite as above. Dolomite, medium- and dark-brown, very finely and finely crystalline, sandy (angular very fine- and fine-grained sand), pelletal
6510 - 6520	Dolomite as above. Dolomite, light-gray to grayish-brown; dark-brown oolites
6520 - 6530	Dolomite as above, no oolites or pellets
6530 - 6540	Dolomite, light-gray and brownish-gray, finely crystalline, sandy (angular very fine- and fine-grained sand)
6540 - 6570	Dolomite as above. Dolomite, medium-brown, pelletal
6570 - 6600	Dolomite, light-gray, yellowish-gray, and brown, finely crystalline, sandy (angular very fine- and fine-grained sand)
6600 - 6620	Dolomite, light-yellowish-gray, fine- and medium-grained, oolitic or pelletal, sandy (subangular to rounded fine- and medium-grained sand); grading in small part into sandstone
6620 - 6630	As above, dark-brown oolites. MT. SIMON SANDSTONE at 6620 feet (GRN)
6630 - 6670	Dolomite, light-gray and yellowish-gray, fine- and medium-grained, sandy (fine- to coarse-grained sand), oolitic. Sandstone, fine- and medium-grained, dolomitic
6670 - 6680	Sandstone, light-yellowish-gray, very fine- and fine-grained, slightly dolomitic, oolitic
6680 - 6730	Sandstone as above, fine- to coarse-grained (predominantly medium); poorly sorted in sample from 6710 to 6730 feet
6730 - 6740	Sandstone, fine- and medium-grained (predominantly fine), siliceous
6740 - 6750	Sandstone as above. Granite or granite gneiss: quartz 60%, plagioclase (albite through andesine) 30%, biotite 5%, others 5%. PRECAMBRIAN at 6740 feet
	TD 6750 feet

Carroll County
Brown Twp.
Section 36

Stocker & Sitler, Inc. #1
Clark *et al.* Unit
Permit No. 286
Sample No. 2027
Elevation (KB) 1182 feet

Depth (ft)	
	Samples above 8150 feet not examined
8150 - 8180	Limestone, medium- and dark-brown and very light-brownish-gray, lithographic and sublithographic. Sand, medium-grained, rounded; trace. Dolomite, dark-brown, very fine-grained; trace
8180 - 8185	Limestone as above. Limestone, medium- and dark-brown, fine-grained. Shale, dark-brown; heavy trace
8185 - 8190	Limestone as above. Shale, medium-greenish-gray; trace
8190 - 8195	Limestone as above
8195 - 8200	Limestone, dark-brown, sublithographic, very argillaceous
8200 - 8210	Limestone as above. Limestone, very light-brownish-gray, very fine-grained, silty. Shale, medium-greenish-gray; trace. Sample mostly shale cavings
8210 - 8235	Limestone as above, dolomitic in part. Shale, medium-greenish-gray; trace. Shale, dark-brown; heavy trace
8235 - 8240	As above. Dolomite, light- and medium-brown, finely crystalline; trace. Sand, coarse-grained, rounded; trace
8240 - 8250	Shale, medium-greenish-gray to gray. Dolomite, light- to medium-greenish-gray, very fine-grained, argillaceous, silty. Sand as above; trace. Limestone as above, sublithographic, minor
8250 - 8260	Siltstone, dark-grayish-brown, very dolomitic. Limestone as above. Shale as above, brown
8260 - 8290	Dolomite, very light-brownish-gray, very light-brown, finely crystalline, sandy (very fine-grained sand); slightly micaceous in part. KNOX DOLOMITE at 8251 feet (GRN)

8290 - 8295	Dolomite, light- and medium-brown, very finely and finely crystalline
8295 - 8300	Dolomite as above, very light brownish gray in part
8300 - 8315	Dolomite, very light-gray, brownish-gray, and grayish-brown, microcrystalline and very finely crystalline, slightly silty
8315 - 8335	Dolomite as above. Dolomite, light-brown, microcrystalline to finely crystalline
8335 - 8340	Dolomite, very light-brownish-gray, finely and medium-crystalline
8340 - 8345	Dolomite as above. Dolomite, very light-gray, very fine-grained. Dolomite, light- and medium-brown, very finely crystalline
8345 - 8355	Dolomite, light- and medium-brown, very finely crystalline
8355 - 8375	Dolomite, very light-brownish-gray, microcrystalline and very finely crystalline, silty
8375 - 8385	Dolomite, very light-brownish-gray to medium-brown, microcrystalline and very finely crystalline
8385 - 8415	Dolomite, very light-brownish-gray to yellowish-gray, very finely and finely crystalline
8415 - 8450	Dolomite, very light-brownish-gray to medium-brown; very finely and finely crystalline in part
8450 - 8455	Dolomite, light-gray, very light-brownish-gray, medium-brown, slightly sandy (very fine-grained sand), slightly glauconitic; in part very finely and finely crystalline. Sandstone, light- and medium-gray, very fine-grained; trace
8455 - 8460	Dolomite as above. Sandstone as above, trace. Sand, fine- to coarse-grained, subrounded and rounded; trace. ROSE RUN sandstone at 8455 feet (GRN)
8460 - 8470	Dolomite as above, sandy (fine- to coarse-grained sand). Sandstone, white, fine- to coarse-grained, slightly glauconitic. Sand, fine- to coarse-grained (predominantly medium and coarse), subrounded and rounded; heavy trace
8470 - 8475	Dolomite as above, slightly glauconitic, sandy (rounded fine- and medium-grained sand). Sandstone, white, fine- and medium-grained; trace. Sand, fine- and medium-grained, rounded; trace
8475 - 8490	As above. Chert, white; trace
8490 - 8510	Sandstone, white, siliceous. Sand, fine- to coarse-grained, poorly sorted, subrounded and rounded. Dolomite, very light-grayish-brown to medium-brown, very finely crystalline, sandy (subrounded and rounded fine- and medium-grained sand)
8510 - 8535	Sandstone as above (predominantly). Dolomite as above
8535 - 8555	Sandstone as above, minor. Dolomite, light- and medium-brown, very light- and light-grayish-brown, and very light-brownish-gray, very finely crystalline, sandy; fine-grained in part
8555 - 8610	Sandstone, white. Sand, fine- to coarse-grained, subrounded and rounded. Dolomite as above. Chert, white; trace
8610 - 8620	As above, dolomite in part pelletal
8620 - 8640	Sandstone and sand as above, trace. Dolomite, very light- to medium-brown, very light-brownish-gray, very finely and finely crystalline; pelletal in part; sandy in part
8640 - 8655	Dolomite as above. Sandstone and sand, fine- to coarse-grained (predominantly medium); heavy trace
8655 - 8665	Dolomite, very light-yellowish-gray to brownish-gray, light- and medium-brown, very finely crystalline; very sandy in part (very fine- and fine-grained sand); pelletal in part
8665 - 8680	As in sample from 8555 to 8610 feet, sandstone subordinate in amount
8680 - 8725	Dolomite as in sample from 8655 to 8665 feet. Sand, fine- to coarse-grained, rounded; minor
8725 - 8770	Dolomite, very light-brownish-gray, light-brown, very finely crystalline; very sandy in part (rounded fine- to coarse-grained sand); minor vuggy porosity. Dolomite pelletal (dark-brown pellets in very light-brownish-gray matrix)
8770 - 8775	Dolomite as above, slightly glauconitic in part
8775 - 8800	Dolomite as in sample from 8725 to 8770 feet
8800 - 8815	Dolomite, light-gray to very light-brownish-gray, very finely crystalline. Dolomite as above. ROME FORMATION at 8782 feet (GRN)
8815 - 8825	Dolomite, light-gray to very light-brownish-gray, very finely crystalline. Dolomite as in sample from 8775 to 8800 feet, minor
	TD samples 8825 feet

Clark County
Harmony Township
Section 3

Hodges Industries, Inc. #1
Elcamere Farms
Permit No. 3
Sample No. 1229
Elevation (DF) 1167 feet

Depth (ft)	
1740 - 2070	No samples
	20-foot samples to 2400 feet
2070 - 2080	Limestone, very light-gray and very light- and light-brown, lithographic. Shale, light- to medium-gray; minor
2080 - 2100	As above, limestone bird's-eye in part
2100 - 2130	Limestone as above. Shale as above. Dolomite, light-green, argillaceous, silty; trace. Dolomite, white, microcrystalline (dolosiltite). Dolomite, very light-brown, very finely crystalline; trace. KNOX DOLOMITE at 2085 feet (GRN)
2130 - 2320	No samples
2320 - 2400	Dolomite, very light-gray to yellowish-gray, microcrystalline (dolosiltite). Dolomite, light-brown, very finely to medium-crystalline; sucrosic in part; some very fine vuggy and pinpoint porosity; minor
	50-foot samples to 2650 feet
2400 - 2450	Dolomite, very light-grayish-brown to medium-brown, very finely and finely crystalline; sucrosic in part; very slightly glauconitic in part; fair pinpoint porosity and fine vuggy porosity
2450 - 2500	Dolomite as above. Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite); minor
2500 - 2650	Dolomite as in sample from 2400 to 2450 feet
2650 - 2660	Dolomite, very light- and light-brown and very light-grayish-brown and gray, microcrystalline (dolosiltite) to very finely crystalline
2660 - 2670	As above. Crystalline pyrite, trace
2670 - 2700	Dolomite as above, some vuggy porosity
2700 - 2720	Dolomite, light-yellowish-brown to light-brown, microcrystalline (dolosiltite); in part pelletal and oolitic (fine-grained, grain-supported in part), sandy to very sandy (very fine- and fine-grained sand)
2720 - 2730	Dolomite as above, very slightly pelletal and oolitic as above, sandy to very sandy (very fine- to medium-grained sand). KERBEL FORMATION at 2720 feet
2730 - 2770	Sandstone, very light-brownish-gray, very fine- and fine-grained, dolomitic to very dolomitic
2770 - 2790	Sandstone as above. Dolomite, white and light-brown, microcrystalline (dolomicrite and dolosiltite); minor

2790 - 2810	Sandstone, light-brownish-gray, very fine-grained, dolomitic, slightly glauconitic. Shale, dark-gray to brownish-gray, silty, dolomitic, slightly micaceous. Dolomite, very light-gray to light-brown, microcrystalline (dolomicrite and dolosiltite); pelletal in part (fine-grained, grain-supported); minor. EAU CLAIRE FORMATION at 2790 feet
2810 - 2820	Shale, dark-gray to greenish-gray. Siltstone, light- and medium-brown, very micaceous; dolomitic in part; minor
2820 - 2870	As above. Dolomite, light- to medium-brown, bioclastic, silty, slightly glauconitic; trace
2870 - 2890	Shale as above. Siltstone as above, trace to heavy trace. Dolomite as above, trace
2890 - 2900	Shale as above. Siltstone as above, trace
2900 - 2920	As above. Dolomite, very light- and light-brown, microcrystalline to finely crystalline (bioclastic? in part), silty; glauconitic in part
2920 - 2940	As above. Dolomite, white, microcrystalline; trace
2940 - 2970	Dolomite as above. Dolomite, very light- and light-grayish-brown, very silty (dolarenite?). Shale as above, minor. ROME FORMATION (very gradational contact) at 2940 feet
2970 - 2990	Dolomite as above, minor; grading into glauconitic siltstone. Shale as above, minor
2990 - 3040	Siltstone, very light- and light-brown, very slightly glauconitic and dolomitic. Dolomite, very light-yellowish-brown to light-brown, very light-gray, microcrystalline (dolomicrite and dolosiltite), very slightly glauconitic. Shale as above, trace
3040 - 3100	Shale as above. Siltstone as above. Dolomite as above, finely crystalline in part
3100 - 3110	Siltstone, very light-brown, slightly glauconitic, slightly dolomitic; minor amount pinkish-yellow. Dolomite, very light-brown, microcrystalline, silty; heavy trace
3110 - 3130	Siltstone, very light-brown and pinkish-yellow, slightly glauconitic, slightly dolomitic. Dolomite, very light-yellowish-brown to very light-brown, microcrystalline (dolosiltite); heavy trace
3130 - 3180	Siltstone as above. Dolomite, very light-brown, microcrystalline (dolomicrite), silty; probably as laminae in siltstone; heavy trace
3180 - 3200	Siltstone as above, minor. Dolomite, light-yellowish-gray, microcrystalline, sandy; grading into very fine- and fine-grained sandstone
3200 - 3210	As above. Sand in dolomite very fine to coarse-grained (predominantly very fine and fine)
3210 - 3230	As above, predominantly siltstone
3230 - 3250	Siltstone, pinkish-yellow to light-yellowish-gray, light-brown and grayish-brown, very slightly glauconitic, sandy (very fine- to coarse-grained sand). Dolomite as above, trace. Shale, dark-gray, trace
3250 - 3260	Sandstone, very fine- and fine-grained. Siltstone, pinkish-yellow to light-grayish-brown. Shale, dark-gray; minor
3260 - 3280	As above. Dolomite, dark-brown, microcrystalline (dolosiltite), argillaceous, very silty; minor
3280 - 3290	Sandstone, pinkish-yellow, fine- and medium-grained. Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), pelletal (very fine- and fine-grained, grain-supported); a few fine-grained dark-brown oolites; sandy; argillaceous in part. Transition zone between Rome and Mt. Simon
3290 - 3300	Misplaced sample
3300 - 3330	Sandstone as above. Sandstone, very light-brown, fine- to coarse-grained (predominantly fine and medium), poorly sorted in part, with a few oolites as above. Dolomite as above, light brown and gray in part, minor. MT. SIMON SANDSTONE at 3300 feet
3330 - 3340	Sandstone as above. Sand, coarse-grained, rounded and frosted; heavy trace. Dolomite, medium-brown and grayish-brown, microcrystalline, pelletal, silty; scattered oolites; heavy trace
3340 - 3390	Sandstone, pinkish-yellow, fine- and medium-grained (predominantly fine)
3390 - 3420	Sandstone as above, with some biotite(?) flakes. Siltstone and very fine-grained sandstone, light-grayish-green and pinkish-yellow; minor. Shale, dark-gray, very silty; minor
3420 - 3440	As above, sandstone pink
3440 - 3450	Sandstone, white (predominantly) and pink, predominantly coarse-grained
3450 - 3500	Sandstone as above, friable; grains rounded and frosted, coarse to very coarse
3500 - 3520	Misplaced sample (coarse-grained sand and medium-gray shale)
3520 - 3550	No samples
3550 - 3580	Rhyolite? PRECAMBRIAN
	TD 3580 feet

Clark County
Madison Township
VMSL 2066

Friend #1 Mattison
Permit No. 5-A
Sample No. 476
Elevation (GL) 1087 feet

Depth (ft)	
	All sample intervals or numbers are those on sample bags
1790	Limestone, very light-grayish-brown to light-brown, predominantly lithographic
1840	As above
1860	Limestone, light-yellowish-gray, lithographic
1880 - 1883	Limestone as above, trace. Dolomite, very light-gray, very finely crystalline
1890	Limestone, very light-gray, lithographic. Limestone, medium-brown, lithographic. Shale, dark-gray; minor
1900	Limestone, light-gray to very light-brownish-gray, lithographic and sublithographic. Shale, light-green, calcareous, silty
1928	Shale, light-green, dolomitic, silty, sandy (very fine-grained sand). Dolomite, very light-grayish-brown, micrograined, argillaceous, silty
1950	Shale as above, trace. Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite), very slightly glauconitic. KNOX DOLOMITE
2000	Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite) and very finely crystalline (sucrosic)
2035	As above
2060	Dolomite as above. Sand, fine- and medium-grained, subrounded and rounded; heavy trace
2110 - 2118	Dolomite, very light-gray and brown, microcrystalline. Chert, white, oolitic; heavy trace
2130	Dolomite, very light-grayish-brown, microcrystalline. Chert, white, oolitic; heavy trace
2150	As above
2160	Dolomite, light-brown, microcrystalline and very finely crystalline
2190	Dolomite, very light-grayish-brown, microcrystalline (dolosiltite). Chert, white; trace
2200	Dolomite, light-brown and very light-grayish-brown, microcrystalline
2210	Dolomite, white, microcrystalline (dolosiltite). Dolomite, light-brown, microcrystalline and very finely crystalline
2265	As above

2285	As above
2300	Dolomite, white; as above
2325	As above
2385	Dolomite, very light-brown and grayish-brown, microcrystalline (dolosiltite)
2420	Dolomite, white, microcrystalline (dolosiltite)
2445	Dolomite, white and very light-brown, microcrystalline (dolosiltite)
2460	Dolomite, very light-gray and brownish-gray, microcrystalline (dolosiltite)
2490	As above
2550	As above
2575	As above
2630	As above
2655	Dolomite, very light-gray to yellowish-gray, microcrystalline (very fine sample); minor. Sand, very fine- and fine-grained, subangular and subrounded
2685	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite), sandy (subangular to rounded fine- and medium-grained sand)
2725	Dolomite, light- to medium-grayish-brown, microcrystalline (dolosiltite), silty
2750	Dolomite, light-brown, microcrystalline (dolomicrite). Shale, medium- and dark-gray. Siltstone, light-brown, slightly grayish, dolomitic. CONASAUGA FORMATION
2775	Shale, dark-gray, dolomitic. Limestone, very light-brown, very light-gray, medium-brown, lithographic to fine-grained
2800	As above
2830	Siltstone, light-brown and pinkish-brown, slightly dolomitic, slightly glauconitic. Shale, medium-gray, reddish-brown, micaceous; minor
2860	As above
2880	Shale as above, minor. Siltstone, light-brown, slightly dolomitic
2900	Shale as above. Siltstone, very light-grayish-brown to medium-brown; very dolomitic in part; grading into dolomite
2932 - 2938	Sandstone, very light-pinkish-brown to pinkish-yellow, very fine-grained, slightly glauconitic
2990	Sandstone, very light-brown to pinkish-brown, very fine- and fine-grained, dolomitic. Shale, dark-gray, silty, micaceous; minor
3065 - 3078	As above, sandstone slightly glauconitic
3078 - 3087	Sandstone as above
3087 - 3094	Sandstone as above, not glauconitic
3100 - 3105	Sandstone, light-pinkish-brown; slightly glauconitic in part
3180	Dolomite, very light-brown, microcrystalline, very sandy; grading into fine- and medium-grained sandstone
3195	As above
3210	As above, sand predominantly fine grained
3215	As above
3216	As above. Dolomite, very light-gray
3230	Sand, fine- and medium-grained, subrounded and rounded; broken in part
3245	As above
3270	As above
3300	Sand, fine- and medium-grained(?), broken
3320	As above
3335	Sand, fine- to coarse-grained, predominantly rounded and frosted. Sandstone, pink, very fine- and fine-grained
3340	Sand as above
3346 - 3349	Sand as above, feldspar and rounded grains of rhyolite(?); heavy trace
3349 - 3353	Sand as above
3360	Sand as above
3366	Quartzite(?), light-yellowish-gray. Rhyolite(?). PRECAMBRIAN
3370	As above
3410 - 3419	Quartzite(?) as above
3472 - 3500	Quartzite(?) as above, trace. Dolomite, dark-gray, microcrystalline.

Remainder not examined

Clark County
Pleasant Township
VMSL 4673

Edmund Oil and Gas Exploration #1 Brown
Permit No. 2
Sample No. 1048
Elevation (KB) 1249 feet

Depth (ft)	
2100 - 2110	Limestone, white, lithographic
2110 - 2140	Limestone, light-grayish-brown, lithographic and micrograined (calcisiltite). Shale, dark-brown and light-green; minor
2140 - 2150	Limestone as above. Shale, light-green, dolomitic, silty. Shale, dark-brown
2150 - 2170	Limestone, light-brown, lithographic and micrograined. Shale as above, heavy trace
2170 - 2180	Limestone as above. Shale as above
2180 - 2190	Shale, light- to medium-green, dolomitic. Limestone as above. Sand, fine- and medium-grained, rounded and frosted. Dolomite, light-gray, microcrystalline
2190 - 2300	Dolomite, light-yellowish-gray, microcrystalline (dolosiltite). Shale as above, minor (to 2200 feet). KNOX DOLOMITE at 2192 feet
2300 - 2310	Dolomite, light-brown, microcrystalline (dolosiltite)
2310 - 2350	Dolomite, white, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline
2350 - 2360	Dolomite, light-brown, microcrystalline (dolosiltite)
2360 - 2380	Dolomite, very light-gray and brown, microcrystalline (dolosiltite)
2380 - 2390	Dolomite, light-brown, very finely and finely crystalline (fine-grained?); fair pinpoint porosity
2390 - 2400	Dolomite as above. Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite); minor
2400 - 2430	Dolomite as in sample from 2380 to 2390 feet
2430 - 2450	Dolomite, very light-brown to brownish-gray, microcrystalline (dolosiltite); some pinpoint porosity. Sandstone, light-gray, very fine- and fine-grained, dolomitic, glauconitic; heavy trace
2450 - 2470	Dolomite, very light-yellowish-brown to light-yellowish-gray, microcrystalline (dolosiltite)
2470 - 2480	Dolomite as above. Sandstone as in sample from 2430 to 2450 feet; trace. "B zone" from 2430 to 2480 feet
2480 - 2500	Dolomite, medium-brown, microcrystalline and very finely crystalline
2500 - 2510	Dolomite as above, very light-grayish-brown and medium-brown
2510 - 2520	Dolomite as above, very light-grayish-brown
2520 - 2560	Misplaced sample or overburden
2560 - 2580	Dolomite, light- and medium-brown, very finely and finely crystalline. Dolomite, very light-brownish-gray to very light-brown, microcrystalline (dolosiltite)
2580 - 2590	Dolomite as above, very finely and finely crystalline
2590 - 2600	Dolomite as above. Dolomite, light-gray, microcrystalline (dolosiltite); trace
2600 - 2650	Dolomite, very light-gray to light-brown, microcrystalline to finely crystalline; cavings
2650 - 2660	Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite)
2660 - 2700	Dolomite as in sample from 2560 to 2580 feet
2700 - 2710	Dolomite, very light-yellowish-brown to light-

brown, microcrystalline; in large part pelletal (very fine-grained, grain-supported)

2710 - 2760 Dolomite as above, minor. Dolomite, light- to medium-brown, microcrystalline to finely crystalline

2760 - 2770 Sandstone, light-brownish-gray, very fine- and fine-grained, dolomitic. KERBEL FORMATION at 2760 feet

2770 - 2790 Dolomite, very light- and light-brown, microcrystalline, sandy to very sandy (very fine- and fine-grained sand). Dolomite, very light-brownish-gray, microcrystalline; trace

2790 - 2800 Sandstone as in sample from 2760 to 2770 feet, very light brownish gray to grayish brown, very dolomitic

2800 - 2810 Sandstone as above, dolomitic. Sand, very fine- to coarse-grained (predominantly very fine and fine)

2810 - 2850 Sandstone as above, very fine-grained. Shale, medium-gray; in streaks. EAU CLAIRE FORMATION at 2810 feet

2850 - 2890 Sandstone as above. Siltstone, light- and medium-grayish-brown, dolomitic. Shale as above. Dolomite, light- and medium-brown, microcrystalline, silty, sandy

2890 - 2940 As above, slightly glauconitic

2940 - 2980 Shale, dark-gray, silty. Siltstone and very fine-grained sandstone, light- and medium-grayish-brown and medium-brown; dolomitic in part

2980 - 2990 As above. Dolomite, very light-gray to light-brown, microcrystalline and very finely crystalline, silty. ROME tongue at 2985 feet

2990 - 3010 Dolomite as above, glauconitic; fine and medium grained in part. Siltstone, very light-grayish-brown, dolomitic, glauconitic; shale partings

3010 - 3020 Dolomite as above, minor. Siltstone, pinkish-brown, very light- to medium-grayish-brown, slightly glauconitic. Shale, medium-gray, silty; minor

3020 - 3050 Siltstone as above. Shale as above, heavy trace

3050 - 3080 Sandstone, light-brown, very fine-grained, dolomitic

3080 - 3100 Sandstone as above. Shale, dark-greenish-gray, micaceous; trace

3100 - 3110 As above. Dolomite, light-brown, microcrystalline; very silty and sandy (very fine- and fine-grained sand) in part; minor

3110 - 3140 As above, sandstone in part glauconitic

3140 - 3190 Sandstone, light-brownish-gray, gray, pinkish-yellow, very fine-grained, glauconitic. Shale, medium- and dark-gray, very silty, micaceous; minor

3190 - 3200 As above, scattered medium- and coarse-grained sand in sandstone

3200 - 3220 Sandstone as in sample from 3140 to 3190 feet

3220 - 3230 Sandstone as above. Dolomite, light-yellowish-gray, microcrystalline (dolomicrite); very sandy (very fine- and fine-grained sand) in part; minor

3230 - 3250 Dolomite as above, in part grading into very fine- to medium-grained sandstone. Sandstone as in sample from 3140 to 3190 feet; minor. Shale, dark-gray, trace

3250 - 3270 Sandstone as above, light yellowish gray, very fine to coarse grained (predominantly medium), very dolomitic in part

3270 - 3280 Sandstone as above, predominantly fine grained

3280 - 3290 Sandstone, very light-brownish-gray, very fine- and fine-grained, dolomitic

3290 - 3300 Shale, dark-brown, silty; minor. Sandstone, medium- to dark-brown, very fine-grained, dolomitic

3300 - 3310 Sandstone as above. Sandstone, light-brown and pinkish-brown, very fine- and fine-grained

3310 - 3320 As above. Dolomite, medium-brown, microcrystalline, pelletal and oolitic (fine-grained, grain-supported), sandy (very fine- and fine-grained sand); minor

3320 - 3380 Sandstone, very light-grayish-brown to light-pinkish-yellow, very fine- and fine-grained; few scattered medium and coarse grains. Dolomite, light-gray and medium-brown, pelletal, oolitic, sandy; minor. MT. SIMON SANDSTONE at 3320 feet

3380 - 3400 Dolomite, pinkish-yellow, light-gray and grayish-brown, fine- and medium-grained (predominantly medium); glauconitic and argillaceous; trace to heavy trace

3400 - 3410 No samples

3410 - 3420 Sandstone as above, predominantly fine grained. Dolomite as above, trace

3420 - 3460 Sandstone, pinkish-yellow, light-gray and brownish-gray, fine- to coarse-grained (predominantly fine). Dolomite as above, trace

3460 - 3470 Sandstone as above, predominantly pinkish yellow

3470 - 3490 Sandstone as above, scattered coarse grains, rounded and frosted

3490 - 3570 Sandstone as above. Sand, very coarse-grained, rounded and frosted

3570 - 3620 Conglomeratic sand

3620 - 3644 Diorite. PRECAMBRIAN at 3620 feet

TD 3644 feet

Clermont County
Stonelick Township
VMSL 681

Continental Oil Co. #1
Wikoff
Permit No. 3
Sample No. 939
Elevation (KB) 817 feet

Depth (ft)

1050 - 1100 Limestone, very light-brown and gray, lithographic (dolomicrite). Shale, medium-gray, calcareous(?); trace. Very fine sample

1100 - 1150 Limestone as above, part of limestone containing patches of crystalline dolomite; ostracod in sample from 1140 to 1150 feet

1150 - 1160 Limestone as above. Shale, medium-gray, calcareous; trace

1160 - 1168 Limestone as above. Shale as above, minor. Dolomite, very light-greenish-gray, microcrystalline (dolosiltite), silty. Shale, bentonitic; trace

1168 - 1170 As above. Shale, medium-grayish-green; trace

1170 - 1180 Limestone as above. Shale, medium-grayish-green; minor. Dolomite as above, trace

1180 - 1185 As above. Shale, bentonitic; trace

1185 - 1195 Limestone, very light- to medium-brown, lithographic and sublithographic, fossiliferous; dolomitic in part. Shale, medium-grayish-green; minor. Shale, bentonitic; trace. Dolomite, very light-brown, micrograined, silty; subequal to minor

1195 - 1205 Dolomite as above. Shale as above, minor

1205 - 1210 Dolomite, very light-brownish-gray to very light-brown, micrograined, silty

1210 - 1215 Dolomite as above. Shale, medium- and dark-greenish-gray and grayish-green; minor

1215 - 1220 As above. Shale, slightly sandy (rounded fine-grained sand)

1220 - 1230 As above. Sandstone, colorless, very fine- and fine-grained, siliceous; much bentonitic shale; sand grains in large part angular through secondary crystallization; few frosted and rounded grains; minor to heavy trace

1230 - 1235 As above. Dolomite, very light-brown, micro-

crystalline (dolosiltite); trace. KNOX DOLOMITE at 1220 feet (GRN)

1235 - 1260 Dolomite as above, slightly sandy in part (fine-grained sand) to 1240 feet

1260 - 1265 Dolomite as above. Dolomite, very light-gray; in part dolomicrite

1265 - 1270 Misplaced sample

1270 - 1295 Dolomite, very light-brown, microcrystalline (dolosiltite)

1295 - 1305 Dolomite as above, slightly silty

1305 - 1310 Dolomite as above. Chert, white; heavy trace

1310 - 1315 Dolomite, light-brown, very finely crystalline

1315 - 1330 Dolomite as above. Dolomite, very light- and light-brown, microcrystalline (dolosiltite)

1330 - 1345 As above. Chert, white; trace

1345 - 1355 Dolomite, very light-brown and gray, microcrystalline (dolomicrite and dolosiltite). Chert, white; trace

1355 - 1365 Dolomite as above

1365 - 1385 Dolomite as above. Chert, white; trace

1385 - 1390 Dolomite, very light-yellowish-brown, microcrystalline (dolomicrite). Dolomite, very light-brown and gray, microcrystalline (microsucrosic dolosiltite); matrix in part replaced partially or completely with chert

1390 - 1395 Dolomite, light-brown and very light-gray, very finely crystalline, sucrosic; varying amounts of chert in matrix

1395 - 1400 Dolomite as above, in part microcrystalline (microsucrosic dolosiltite). Chert, white; heavy trace

1400 - 1430 Dolomite as above. Chert, white; trace

1430 - 1435 Dolomite, very light- and light-brown, very finely crystalline, sucrosic. Sand, fine- and medium-grained, rounded; trace

1435 - 1440 Dolomite as above, microcrystalline (dolosiltite) in part

1440 - 1455 Dolomite as above, very sandy in part (very fine- to medium-grained sand)

1455 - 1475 Dolomite, very light- and light-brown and yellowish-brown, microcrystalline (dolosiltite); some medium-grained sand to 1460 feet

1475 - 1485 Dolomite, very light- and light-brown to yellowish-brown, microcrystalline (dolomicrite and dolosiltite). Chert, white, oolitic and colorless, recrystallized; trace. Sand, fine- and medium-grained; trace

1485 - 1500 Dolomite as above. Quartz (recrystallized chert), trace. Dolomite crystals, heavy trace

1500 - 1515 Dolomite, very light-yellowish-brown to yellowish-gray, microcrystalline (dolosiltite). Pyrite, trace

1515 - 1530 Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite); cherty to siliceous in part, with chert oolites. Chert, white, oolitic; botryoidal in part; heavy trace

1530 - 1540 Dolomite, very light-gray and yellowish-brown, microcrystalline to coarsely crystalline, slightly glauconitic, sandy to very sandy (very fine- to medium-grained sand). Siltstone, very light-brown, dolomitic, glauconitic; trace

1540 - 1545 Dolomite as above, nonsandy

1545 - 1550 Dolomite as above. Dolomite, very light- and light-brown, medium- and coarsely crystalline; vuggy porosity; trace

1550 - 1565 As above, mostly medium and coarsely crystalline, pink in part, slightly sandy in part (fine- and medium-grained sand)

1565 - 1570 Dolomite as above. Dolomite, light-brown to grayish-brown, microcrystalline (dolosiltite), silty; trace

1570 - 1575 As in sample from 1550 to 1565 feet

1575 - 1580 Chert, white and light-gray; heavy trace. Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) to coarsely crystalline

1580 - 1585 Dolomite as above. Chert as above, trace

1585 - 1605 Dolomite as above, predominantly very finely and finely crystalline; sucrosic to 1595 feet

1605 - 1615 Dolomite as above, silty in part. Chert, white; trace

1615 - 1620 Dolomite, very light-yellowish-brown to light-grayish-brown, microcrystalline (dolomicrite) and very finely and finely crystalline, very slightly sandy (fine-grained sand). Chert, white; trace

1620 - 1630 Dolomite, very light- and light-brown, finely crystalline, cherty to siliceous, very slightly sandy. Chert, white to light-yellowish-brown; oolitic in part; recrystallized in part; containing calcite or dolomite molds; minor

1630 - 1640 Dolomite, light-brown, very finely and finely crystalline. Chert as above, trace

1640 - 1655 Dolomite as above. Dolomite, light-brown, microcrystalline (dolosiltite); probably pelletal; pinpoint porosity. Chert as above, trace

1655 - 1670 Dolomite, pelletal(?) as above to 1660 feet. Dolomite, light-yellowish-brown and light-brown, microcrystalline (dolomicrite) to finely crystalline

1670 - 1675 Dolomite, light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; sucrosic in part; pelletal and/or oolitic in part (medium-grained); slightly sandy (very fine-grained sand)

1675 - 1680 As above, with good pinpoint porosity

1680 - 1690 Dolomite as above. Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite); minor

1690 - 1695 Dolomite, very light-grayish-brown to yellowish-brown, microcrystalline (dolosiltite)

1695 - 1700 Dolomite, light-yellowish-brown, very finely crystalline; pelletal and/or oolitic as sample from 1670 to 1675 feet; some sand nuclei visible; oolites or pellets dissolved in part and dolomite subsequently recrystallized to become porous with sucrosic voids. Chert, white and medium-brown, oolitic (and zoned pelletal, medium- and coarse-grained); minor

1700 - 1705 Dolomite as above. Dolomite as in sample from 1690 to 1695 feet. Chert as above, trace

1705 - 1710 Dolomite as above, pelletal and/or oolitic, good pinpoint porosity

1710 - 1715 Dolomite, light-yellowish-gray to light-yellowish-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (fine- to coarse-grained, rounded), oolitic (sand grain nuclei)

1715 - 1720 As above, very slightly sandy

1720 - 1725 Dolomite, light-brown, microcrystalline (dolosiltite)

1725 - 1730 Dolomite as above. Dolomite, light-yellowish-brown; pelletal(?) in part. Chert, very light-brown; trace

1730 - 1735 Dolosiltite as above, with scattered oolites. Dolomite, white, microcrystalline (dolomicrite). Chert, white- to very light-brown, oolitic (medium-grained); heavy trace

1735 - 1740 Dolomite, very light-grayish-brown, microcrystalline (dolosiltite), very silty

1740 - 1746 Dolomite, light-yellowish-brown, microcrystalline (dolomicrite), pelletal. Chert, white- to very light-yellowish-brown, oolitic.

1746 - 1755 Dolomite, light-brown to yellowish-brown, microcrystalline (dolosiltite); core chips

1755 - 1765 Dolomite, very light-yellowish-brown, microcrystalline (dolomicrite)

1765 - 1775 Dolomite as above. Dolomite, light- to medium-brown, microcrystalline (dolosiltite), pelletal

	or oolitic (medium-grained); minor
1775 - 1785	Dolomite, white- to very light-grayish-brown and yellowish-brown, microcrystalline (dolosiltite). Chert, white; trace
1785 - 1790	Dolomite as above. Dolomite, light-yellowish-brown to brown. Chert, white, pelletal (ovoid in part); trace
1790 - 1805	Dolomite as above
1805 - 1825	Dolomite as above, good pinpoint porosity in part; sucrosic in part; probably pelletal and/or oolitic
1825 - 1840	Dolomite as above. Chert, white; recrystallized in part; trace
1840 - 1850	Dolomite, light-yellowish-brown, microcrystalline (dolosiltite)
1850 - 1855	Dolomite as above, light-yellowish-gray to light-yellowish-brown
1855 - 1870	Dolomite as above, very finely crystalline in part
1870 - 1880	Dolomite as above, very finely crystalline
1880 - 1885	Dolomite as above, very finely to medium crystalline
1885 - 1895	Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolosiltite) to very finely crystalline
1895 - 1905	Dolomite as above, microcrystalline to coarsely crystalline
1905 - 1910	Dolomite as above, microcrystalline to finely crystalline
1910 - 1915	Dolomite, light-brown, microcrystalline (predominantly dolomicrite). Chert, white; trace
1915 - 1920	Dolomite, very light-brown to light-grayish-brown and brown, microcrystalline (dolomicrite) and very finely crystalline
1920 - 1935	Dolomite as above, microcrystalline to medium crystalline; some vuggy porosity
1935 - 1950	Dolomite as above, microcrystalline to finely crystalline; pinpoint porosity
1950 - 1960	Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) to medium-crystalline; some vuggy and pinpoint porosity
1960 - 1970	Dolomite, very light- to medium-brown, microcrystalline to very finely crystalline
1970 - 1975	Dolomite, very light-yellowish-brown, microcrystalline (dolomicrite)
1975 - 1990	Dolomite, light-brown, very finely crystalline. Dolomite as above
1990 - 2000	Dolomite, light- to medium-brown, microcrystalline (dolosiltite)
2000 - 2025	Dolomite as above. Dolomite, light-yellowish-gray, microcrystalline (dolomicrite)
2025 - 2030	Dolomite, light- to medium-brown, microcrystalline (dolosiltite)
2030 - 2055	Dolomite as in sample from 2000 to 2025 feet
2055 - 2060	Dolomite as above. Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), silty, pyritic, micaceous; heavy trace
2060 - 2065	Dolomite as in sample from 2000 to 2025 feet
2065 - 2070	Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline. Chert, white; trace
2070 - 2080	Dolomite, light- to medium-brown, very finely crystalline. Dolomite, light-yellowish-gray, microcrystalline (dolosiltite)
2080 - 2085	Dolomite, light-brown, microcrystalline (dolosiltite). Chert, white; trace
2085 - 2090	Dolomite as above, very finely crystalline in part
2090 - 2095	Dolomite, white- to very light-gray, very finely and finely crystalline, sucrosic; pinpoint and vuggy porosity
2095 - 2110	Dolomite as above, microcrystalline (dolosiltite) in part; vuggy porosity; trace
2110 - 2130	Dolomite as above, very light yellowish brown in part
2130 - 2145	Dolomite, light-brown, microcrystalline (dolosiltite)
2145 - 2150	Dolomite, white, microcrystalline (dolosiltite)
2150 - 2160	Dolomite as above. Dolomite, white, coarsely crystalline; trace
2160 - 2165	Dolomite, light-brown, microcrystalline (dolosiltite)
2165 - 2170	Dolomite as above. Dolomite, light-brown, very finely and finely crystalline
2170 - 2175	Dolomite, very light-brown and yellowish-brown, microcrystalline (dolomicrite). Dolomite as above, minor
2175 - 2180	Dolomite, light-brown, microcrystalline (dolomicrite). Dolomite, white, coarsely crystalline, slightly glauconitic; trace
2180 - 2185	Dolomite, white, finely and medium-crystalline. Dolomite, very light-brown, microcrystalline (dolomicrite). Sand, medium- and coarse-grained, angular to rounded; heavy trace. Igneous and metamorphic rock fragments and pink chert; trace (overburden?)
2185 - 2190	Dolomite, white, as above; recrystallized and with vuggy porosity in part
2190 - 2195	Dolomite, white and very light-pinkish-brown, microcrystalline (dolomicrite)
2195 - 2200	Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolomicrite)
2200 - 2205	Dolomite, light-grayish-brown, microcrystalline (dolosiltite)
2205 - 2215	Dolomite as above, minor. Dolomite, white and very light-brownish-gray, finely and medium-crystalline, silty, slightly glauconitic
2215 - 2225	Dolomite, light-brown, finely and medium-crystalline
2225 - 2235	Dolomite as above, microcrystalline (dolosiltite) in part, fair vuggy porosity in sample from 2230 to 2235 feet
2235 - 2240	Dolomite as above. Dolomite, light-gray, microcrystalline (dolomicrite); trace
2240 - 2250	Dolomite as in sample from 2215 to 2225 feet
2250 - 2255	Dolomite, light-brown to yellowish-brown, microcrystalline (dolosiltite)
2255 - 2280	Dolomite as in sample from 2215 to 2225 feet, becoming very light yellowish brown in part at 2265 feet
2280 - 2305	Dolomite as above, in part microcrystalline (dolosiltite)
2305 - 2310	Dolomite, light-yellowish-gray to light-yellowish-brown and brown, microcrystalline (dolosiltite) to medium-crystalline; recrystallized in part
2310 - 2315	Dolomite, light-yellowish-gray to very light-yellowish-brown, microcrystalline and very finely crystalline (matrix dolosiltite with scattered very fine crystals)
2315 - 2330	Dolomite as above, finely and medium crystalline in part
2330 - 2345	Dolomite as above, predominantly finely and medium crystalline. Dolomite, very light-gray to greenish-gray, medium-crystalline, slightly glauconitic; trace
2345 - 2355	As above, dolomicrite through microcrystalline
2355 - 2375	Dolomite, very light-yellowish-brown, microcrystalline (dolomicrite and dolosiltite)
2375 - 2385	As above, in part recrystallized
2385 - 2390	As above. Pyrite, trace
2390 - 2395	Dolomite as above. Pyrite, trace. Dolomite, medium-brown, finely crystalline, trace
2395 - 2400	Dolomite, white, microcrystalline (dolomicrite and dolosiltite), very slightly glauconitic; pinpoint and vuggy porosity
2400 - 2405	Dolomite, light-yellowish-gray, light-brown and grayish-brown, microcrystalline (dolomicrite and dolosiltite), slightly silty; dis-

seminated very fine pyrite. Dolomite, medium-brown, microcrystalline (dolosiltite), silty; a few pellets or oolites; trace

2405 - 2410 Dolomite, very light-yellowish-brown to medium-brown, microcrystalline (dolosiltite) to medium-crystalline, slightly silty. Dolomite, light-brownish-gray, microcrystalline (dolosiltite); minor

2410 - 2415 As above. Siltstone, light-gray and dark-brown, laminated, slightly glauconitic; trace

2415 - 2420 Dolomite as above, pinpoint porosity in medium-brown dolomite

2420 - 2425 Dolomite as above. Siltstone, dark-brown; trace

2425 - 2435 Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), silty

2435 - 2455 Dolomite as above, with a few oolites and pellets to 2440 feet; pellets with dark-gray matrix with much disseminated silt-sized pyrite

2455 - 2460 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), silty. Dolomite, medium-brown, microcrystalline (dolosiltite); excellent pinpoint porosity. Shale, very dark-gray; as partings in dolomite; trace

2460 - 2470 Dolomite, medium- to dark-brown, as above

2470 - 2480 Dolomite as above, light brown

2480 - 2500 Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite), oolitic (fine- and medium-grained dark-brown oolites, ovoid in part); pinpoint porosity

2500 - 2505 Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), silty. Dolomite, very light-gray, microcrystalline (dolomicrite and dolosiltite), slightly silty; patches and elongated areas of very finely crystalline dolomite (fossils?); dolomite oolites (may be pellets in part) as above

2505 - 2510 Dolomite, fossiliferous? as above; trace. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), silty

2510 - 2520 Dolomite (dolosiltite) as above. Limestone, light- and medium-brown, micrograined (dolomicrite). Dolomite, fossiliferous? as above, trace. Shale, dark-grayish-brown, dolomitic, silty; trace

2520 - 2525 Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), silty, argillaceous; minor. Limestone, very light- to medium-brown, dolomicrite to bioclastic or fossiliferous; oolitic (medium-grained, radial structure) in part

2525 - 2540 Limestone as above. Shale, dark-gray and brown; oolites (and pellets?); minor

2540 - 2545 Limestone as above, trace. Dolomite, white to very light-yellowish-brown, very finely and finely crystalline; fossiliferous? as in sample from 2500 to 2505 feet

2545 - 2550 Dolomite as above. Limestone, light-brown, micrograined (dolomicrite and calcisiltite)

2550 - 2555 Dolomite, very light-gray and brown, microcrystalline (dolosiltite), silty. Limestone as above, several chips showing the sharp contact between dolomite and limestone; limestone containing very fine euhedral dolomite crystals which project, with sharp boundaries, into dolomite matrix

2555 - 2560 Siltstone, medium-brown, glauconitic, slightly dolomitic; shaly partings; trace. Limestone, very light- to medium-brown, micrograined, coarsely bioclastic; oolitic in part (both mud- and grain-supported medium- and coarse-grained oolites). Shale, medium-gray; minor

2560 - 2570 Limestone as above. Shale, medium- and dark-gray; minor

2570 - 2575 As above. Siltstone, light-brown, calcareous; heavy trace

2575 - 2585 Limestone as above

2585 - 2605 No samples

2605 - 2610 Siltstone, light-yellowish-brown, glauconitic, micaceous, slightly calcareous or dolomitic. Shale, dark-gray, micaceous; minor. EAU CLAIRE FORMATION at 2584 feet (GRN)

2610 - 2635 Siltstone as above, very slightly glauconitic. Shale as above, streaks

2635 - 2665 As above, shale in part dark reddish brown. Dolomite, light-brown, microcrystalline (dolosiltite); trace to 2640 feet

2665 - 2675 Siltstone, light-brown and yellowish-brown to very light-grayish-brown, fossiliferous, micaceous

2675 - 2695 Siltstone as above. Shale, dark-gray; micaceous in part. Limestone, light-gray and brown, micrograined (dolomicrite and calcisiltite), silty; micaceous in part

2695 - 2715 As above, predominantly limestone, in part fossiliferous

2715 - 2720 Shale, medium-gray. Limestone, light-brown and gray and brownish-gray, micrograined (dolomicrite and calcisiltite); silty in part. Dolomite, light-brown to light-yellowish-gray, very finely crystalline; trace

2720 - 2725 No samples

2725 - 2730 As above, limestone micaceous in part

2730 - 2735 Limestone as above. Siltstone, medium-brown, argillaceous, micaceous; minor

2735 - 2740 No samples

2740 - 2750 Limestone as above, very dolomitic and very silty. Siltstone as above. Shale, medium-gray

2750 - 2775 Siltstone, light- and medium-gray, light-brown, slightly glauconitic, micaceous; calcareous in part. Shale, medium-gray and brownish-gray; minor. Limestone as above, trace

2775 - 2785 As above, siltstone in part sandy (very fine-grained sand)

2785 - 2800 Siltstone, light-pinkish-brown to light-brown and grayish-brown, slightly micaceous, slightly dolomitic. Shale as above, micaceous; trace

2800 - 2815 Siltstone as above, in part pinkish red; slightly glauconitic. Shale, medium-gray and reddish-brown, micaceous; trace to heavy trace

2815 - 2890 As above. Dolomite as in sample from 2500 to 2505 feet, glauconitic; trace

2890 - 2910 Siltstone, pinkish-yellow and pinkish-brown, micaceous, slightly glauconitic. Shale, reddish-brown and medium-gray, silty, micaceous; trace

2910 - 2915 Siltstone as above. Shale as above

2915 - 2925 Siltstone as above. Shale as above. Dolomite, very light-brown, microcrystalline (dolosiltite). Dolomite, white, medium-crystalline

2925 - 2945 Siltstone as above. Shale as above, minor. Dolomite as above, trace

2945 - 3005 Siltstone, pinkish-yellow and pinkish-brown, micaceous, glauconitic. Shale, medium-gray to greenish-gray; minor. Dolomite as above, in streaks

3005 - 3010 Siltstone as above. Shale as above, minor. Sandstone, fine- and medium-grained; grains subangular and subrounded; trace

3010 - 3020 Siltstone and shale as above. Sand, fine- to coarse-grained, subrounded and rounded; trace. Sandstone as above, trace

3020 - 3030 Sandstone, pinkish-yellow, very fine- and fine-grained; in small part poorly sorted, fine- to coarse-grained, siliceous. Shale, medium-gray; minor

3030 - 3040 Sandstone as above

3040 - 3045 Sandstone, light- and medium-gray, pinkish-

	yellow, very fine- and fine-grained, silty, siliceous; argillaceous in part; glauconitic in part. Shale, medium-gray
3045 - 3050	Sandstone, pinkish-yellow, very fine- and fine-grained, silty, siliceous. Shale as above, minor
3050 - 3055	Sandstone as above, pink in part; glauconitic to very glauconitic. Shale as above
3055 - 3070	Siltstone, pinkish-yellow and light- and medium-gray, glauconitic, siliceous, fossiliferous (brachiopod); argillaceous in part. Shale, medium-gray; minor. Sand, fine- to coarse-grained; floating in siltstone; trace
3070 - 3075	Sandstone, pinkish-yellow and light- and medium-gray, very fine- and fine-grained, silty, siliceous; some medium-grained sand; glauconitic in part; argillaceous in part. Shale, medium-gray; minor
3075 - 3090	Sandstone, pinkish-yellow, very fine- and fine-grained, slightly glauconitic, silty; a few medium-sized sand grains
3090 - 3100	As above. Shale, medium-gray; trace
3100 - 3110	Sandstone as above. Siltstone, pinkish-gray, slightly glauconitic. Sand, fine- and medium-grained, subrounded. Dolomite, very light-gray, microcrystalline (dolomicrite), oolitic (fine- to coarse-grained, sand-centered); trace
3110 - 3115	Sand, medium-grained, subrounded and rounded
3115 - 3120	Sandstone, pink, very fine-grained
3120 - 3125	Sandstone as above, slightly glauconitic. Siltstone, pinkish-gray. Shale, medium-gray; minor
3125 - 3130	As above. Sand, fine- to coarse-grained, subangular to rounded; heavy trace
3130 - 3135	As above; more than half of sample poorly sorted colorless sand and sandstone
3135 - 3140	Sand, colorless to pink, coarse- to very coarse-grained, rounded, frosted. MT. SIMON SANDSTONE at 3135 feet
3140 - 3145	Sand as above, fine and medium (minor) and coarse to very coarse grained
3145 - 3180	Sand, medium- to very coarse-grained, rounded, frosted
3180 - 3194	Sand as above. Sandstone, white to red and colorless, fine- and medium-grained, siliceous
3194 - 3220	As above, sandstone fine to coarse grained
3220 - 3255	Sand, coarse- and very coarse-grained, rounded, frosted; broken(?) in part
3255 - 3260	As above. Siltstone, very light-brownish-gray; minor. Shale, red, silty; heavy trace
3260 - 3295	Sand as above. Shale as above, trace. Sandstone, white, fine- and medium-grained, siliceous
3295 - 3300	As above, sandstone conglomeratic
3300 - 3310	As above. Shale as above, to 3305 feet; minor
3310 - 3330	As above. "Granite wash"?, heavy trace
3330 - 3340	Rhyolite, red (red aphanitic rock; red may be stain)
3340 - 3345	As above. Sandstone and siltstone (quartzite? in part)
3345 - 3435	Rhyolite, amygdaloidal. PRECAMBRIAN at 3345 feet
	TD 3435 feet

Clinton County
Wayne Township
VMSL 808

Kewanee Oil Co. #1 McVey
Permit No. 7
Sample No. 837
Elevation (CM) 1087 feet

Depth (ft)	
1700 - 1710	Limestone, very light- and light-brown, lithographic. Shale, light-green, dolomitic; trace
1710 - 1720	Limestone as above
1720 - 1730	Limestone as above. Dolomite, very light-brown, microsucrosic
1730 - 1740	Limestone, very light-brown, lithographic. Shale, very light-green; trace
1740 - 1750	Limestone, light-brown, lithographic. Shale, light- and medium-green, dolomitic; minor
1750 - 1760	Limestone as above. Shale, light-green, dolomitic; heavy trace
1760 - 1770	Shale, dark-green, dolomitic. Dolomite, very light-brown to brownish-gray, very slightly sucrosic. Wells Creek Dolomite
1770 - 1790	Sandstone, very light-brown, very fine-grained, very dolomitic. Dolomite as above, minor
1790 - 1800	Dolomite, very light-brown, microcrystalline to very finely sucrosic. KNOX DOLOMITE at 1790 feet
1800 - 1810	Dolomite, very light-gray and brown, microcrystalline and very finely sucrosic; very slightly glauconitic in part. Sand, fine- and medium-grained, subrounded to rounded and frosted; heavy trace
1810 - 1820	Dolomite, very light-gray, microcrystalline (finely sucrosic in part)
1820 - 1830	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite), microsucrosic. Chert, very light-gray; trace. Shale, dark-green, pyritic; trace
1830 - 1840	Dolomite, very light-brown, microcrystalline. Chert, very light-gray, sandy (fine-grained sand). Shale, light-green, dolomitic. Sand as in sample from 1800 to 1810 feet, heavy trace
1840 - 1850	Dolomite, very light-brown, microcrystalline (dolosiltite), microsucrosic. Sand as above, trace
1850 - 1860	Dolomite as in sample from 1830 to 1840 feet. Chert as in sample from 1830 to 1840 feet, minor. Shale and sand as above, trace
1860 - 1870	Dolomite, light-gray and brown, microcrystalline. Shale cavings
1870 - 1880	No samples
1880 - 1920	Dolomite as above, microcrystalline to medium crystalline. Cavings
1920 - 1970	Dolomite, very light-gray to light-brown, microcrystalline to medium crystalline (predominantly microcrystalline). Shale cavings
1970 - 2010	Dolomite as above. Chert, white, pelletal (fine- and medium-grained) and medium-brown pelletal (silicified dolomite); heavy trace
2010 - 2060	Cavings
2060 - 2070	Dolomite, very light-brown, microcrystalline (dolosiltite), in large part pelletal (fine- and medium-grained, grain-supported in part)
2070 - 2100	Dolomite, very light-gray to light-brown, microcrystalline (dolosiltite). Chert, white; trace to heavy trace
2100 - 2140	Dolomite as above, light brown
2140 - 2160	Cavings
2160 - 2170	Dolomite, light-brown, microcrystalline (dolosiltite); fine- and medium-grained in part, grains may be scattered pellets
2170 - 2190	Dolomite as above, microcrystalline and very finely crystalline
2190 - 2240	Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite)
2240 - 2250	Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline
2250 - 2260	Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite); minor
2260 - 2270	As above. Dolomite, light-brown; finely sucrosic in part; fair pinpoint porosity
2270 - 2280	As above, a few pellets in light-brown dolomite
2280 - 2290	Dolomite, very light- to medium-brown, very finely and finely crystalline
2290 - 2310	Dolomite as above, microcrystalline to finely crystalline

2310 - 2320 Dolomite, very light-yellowish-brown, microcrystalline and very finely crystalline; silty in part. Sandstone, white, very fine-grained, slightly glauconitic; heavy trace

2320 - 2330 Dolomite, light- and medium-brown, very slightly glauconitic. Sandstone, light-gray, very fine-grained; heavy trace

2330 - 2350 Dolomite as in sample from 2310 to 2320 feet. Sandstone as from 2310 to 2320 feet, minor

2350 - 2370 Dolomite, light-brown, microcrystalline and very finely crystalline

2370 - 2420 Dolomite, very light-grayish-brown to very light-gray, microcrystalline (dolosiltite)

2420 - 2430 As above, very slightly glauconitic

2430 - 2450 Dolomite, very light-brownish-gray and medium-brown, microcrystalline (dolosiltite)

2450 - 2470 Dolomite, very light-yellowish-brown and light-brown, microcrystalline (dolosiltite)

2470 - 2490 Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite)

2490 - 2500 Dolomite as above, minor. Dolomite, medium-brown, very finely and finely crystalline

2500 - 2520 As above. Dolomite, dark-brown, microcrystalline (dolosiltite), silty; heavy trace

2520 - 2530 Dolomite, very light- to medium-brown, microcrystalline and very finely crystalline

2530 - 2540 Dolomite, very light-grayish-brown, microcrystalline (dolosiltite)

2540 - 2600 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline

2600 - 2610 Dolomite, very light-grayish-brown, microcrystalline (dolosiltite)

2610 - 2630 Dolomite as in sample from 2540 to 2560 feet

2630 - 2650 Dolomite as in sample from 2600 to 2610 feet

2650 - 2660 Dolomite, light- and medium-brown and grayish-brown, microcrystalline (dolosiltite); silty and argillaceous in part

2660 - 2670 Dolomite as above, very sandy (very fine-grained sand)

2670 - 2700 Dolomite, light- and medium-brown, very finely crystalline

2700 - 2720 As above, very light to medium brown. Sandstone, very light-grayish-brown, very fine-grained, dolomitic; heavy trace. Limestone, light-brown, lithographic; as streaks

2720 - 2740 Dolomite as above. Dolomite, light- and medium-brown, microcrystalline, very sandy (very fine-grained sand), slightly glauconitic; heavy trace

2740 - 2750 Limestone, light- and medium-brown, lithographic. Shale, dark-brown to grayish-brown, dolomitic; minor. CONASAUGA FORMATION at 2740 feet

2750 - 2770 As above. Limestone, very light-gray, micrograined

2770 - 2780 Siltstone, light-grayish-brown to medium-brown, micaceous, slightly dolomitic, slightly glauconitic. Limestone as above, minor. Shale, dark-gray to greenish-gray, silty; minor

2780 - 2800 Shale as above. Limestone, very light-gray to light-brown, predominantly lithographic, fossiliferous; minor

2800 - 2810 Shale as above. Siltstone, light-brown; micaceous in part

2810 - 2820 Siltstone as above, slightly glauconitic in part. Shale as above, minor

2820 - 2830 Siltstone, very light-brown to light-grayish-brown, micaceous, very slightly glauconitic

2830 - 2840 As above. Shale, dark-gray to greenish-gray; heavy trace

2840 - 2850 Siltstone as above. Shale as above, minor. Shale, reddish-brown, very micaceous; trace

2850 - 2860 Siltstone as above, very dolomitic. Shale, dark-gray to greenish-gray. Shale, reddish-brown, as above; trace

2860 - 2870 Siltstone as above, greenish gray and reddish brown. Shale as above

2870 - 2890 Limestone, very light- and light-gray and brown, predominantly lithographic, fossiliferous; very silty in part; minor. Shale, dark-gray, very silty; minor amount reddish brown. Siltstone, medium-brown and dark-gray; minor

2890 - 2910 Limestone as above. Siltstone as above, minor. Shale, medium-gray; heavy trace

2910 - 2930 As above. Shale, dark-gray to greenish-gray; minor to heavy trace

2930 - 2940 Shale as above, silty; heavy trace. Dolomite, light-yellowish-brown, microcrystalline to very finely crystalline; heavy trace. Limestone as above, trace. Siltstone, light-brown to medium-gray, very micaceous, slightly dolomitic, slightly glauconitic

2940 - 2970 Dolomite, very light- and light-gray, microcrystalline to medium-crystalline, very silty, glauconitic; minor. Siltstone, very light- and light-brown, glauconitic. Shale, dark-gray to greenish-gray; minor amount reddish brown; minor

2970 - 2980 Siltstone as above, yellowish brown in part. Dolomite and shale as above, medium and dark gray; heavy trace

2980 - 3000 Sandstone, light-yellowish-brown to pinkish-yellow, very fine-grained, silty, glauconitic. Shale as above, heavy trace

3000 - 3040 Sandstone as above. Shale as above, heavy trace. Dolomite, light-gray and brown, microcrystalline to medium-crystalline, glauconitic; a few pellets (fine- and medium-grained); trace

3040 - 3060 Sandstone, light-yellowish-gray, pinkish-brown and gray, light-brown, very fine-grained, silty, glauconitic, slightly dolomitic. Shale, medium- and dark-gray to greenish-gray; minor

3060 - 3070 Sandstone as above. Shale as above, very dolomitic in part

3070 - 3080 Sandstone as above. Shale as above, minor. Dolomite, light-brown, microcrystalline, silty; heavy trace

3080 - 3090 Sandstone as above, fine grained in part. Dolomite as above, sandy, minor

3090 - 3110 Dolomite as above. Sandstone as above, minor

3110 - 3131 No samples

3131 - 3140 Sandstone, pinkish-yellow, very fine- and fine-grained, dolomitic; a few medium-sized grains. Dolomite, very light-gray to brownish-gray, microcrystalline, sandy (very fine- to medium-grained sand), pelletal (fine-grained, grain-supported); minor. ROME FORMATION at 3089 feet (E-log)

3140 - 3150 Sandstone, very light-gray, very fine- to coarse-grained (predominantly fine), dolomitic to very dolomitic; minor amount pinkish yellow; in small part grading into very sandy dolomite

3150 - 3190 Sandstone as above, predominantly pinkish yellow

3190 - 3210 Sandstone, light- and medium-gray and pinkish-yellow, very fine- and fine-grained, glauconitic to very glauconitic. Shale, dark-gray to greenish-gray; minor. Dolomite, light-gray, microcrystalline, sandy, slightly glauconitic; heavy trace. EAU CLAIRE tongue

3210 - 3220 No samples

3220 - 3230 Sandstone, pinkish-yellow and light-brown, very fine- to medium-grained (predominantly fine); a few coarse grains. Dolomite, light-gray, microcrystalline, sandy, pelletal and oolitic (fine- and medium-grained, grain-supported in part); minor

3230 - 3240 Dolomite, light- and medium-brown, microcrystalline, very sandy (very fine-grained sand). Sandstone as above, minor
3240 - 3260 As above, dolomite pelletal in part. Sandstone predominantly in sample from 3250 to 3260 feet
3260 - 3270 Sandstone, very light-pinkish-gray, very fine- to coarse-grained (predominantly fine)
3270 - 3280 Sandstone as above. Dolomite as in sample from 3230 to 3240 feet; heavy trace
3280 - 3290 No samples
3290 - 3300 Sandstone as above, minor. Sandstone, light- and medium-gray, very fine- and fine-grained, very glauconitic; argillaceous in part
3300 - 3310 Sandstone as above, very glauconitic
3310 - 3320 As above. Sandstone, light-pinkish-yellow and very light-gray, fine- to coarse-grained, poorly sorted; heavy trace. MT. SIMON SANDSTONE at 3310 feet (E-log)
3320 - 3360 Sandstone, light-pinkish-yellow and very light-gray, very fine- to coarse-grained (predominantly fine)
3360 - 3370 Sandstone as above. Shale, dark-greenish-gray; minor
3370 - 3380 Sandstone as above, predominantly coarse grained; grains rounded and frosted. Shale as above, heavy trace
3380 - 3390 Sandstone, very light-gray and very light-pinkish-gray, very fine- to coarse-grained, poorly sorted
3390 - 3400 Sandstone as above, predominantly coarse grained
3400 - 3410 Sandstone as above, pink and fine grained in part
3410 - 3430 Sand, coarse-grained, rounded and frosted. Sandstone, light-gray, predominantly fine- and medium-grained; heavy trace
3430 - 3450 Sandstone, white and pink, fine- to coarse-grained (predominantly fine)
3450 - 3460 No samples
3460 - 3465 Cavings. Amphibolite (McCormick, 1961). PRECAMBRIAN at 3460 feet
TD samples 3465 feet

Clinton County
Wayne Township
VMSL 1065

Kewanee Oil Co. #1 Adams
Permit No. 2
Sample No. 772
Elevation (CM) 1080 feet

Depth (ft)

Poor samples in part because of cavings

1650 - 1671 Limestone, very light-gray to light-brown, lithographic; bird's-eye structures
1671 - 1720 Limestone as above, in part with microsucrosic dolomite crystals
1720 - 1728 Sandstone, light-gray and greenish-gray, very fine- and fine-grained; argillaceous and silty in part. Dolomite, light-brown, microsucrosic, silty, sandy (very fine-grained sand). Wells Creek Dolomite
1728 - 1736 As above. Shale, dark-green; trace
1736 - 1745 Sandstone and dolomite as above. Dolomite, very light- and light-brown, microsucrosic, slightly glauconitic. KNOX DOLOMITE at 1743 feet
1745 - 1750 As above, dolomite sandy (very fine- to medium-grained sand)
1750 - 1772 Dolomite, very light- and light-brown, microsucrosic and very finely sucrosic
1772 - 1778 Dolomite, very light-gray and brown, very fine and finely sucrosic; core chips
1778 - 1786 Chert, white, very sandy (predominantly medium-grained sand). Sandstone, light-gray, medium-grained; trace. Siltstone, light-gray, very dolomitic; minor. Dolomite, light-gray, microsucrosic. Dolomite, medium-brown, microsucrosic and very finely sucrosic; sandy in part
1786 - 1797 Chert and sandstone as above, trace. Dolomite, very light- and light-gray, microcrystalline (dolomicrite). Dolomite sucrosic, as above, sandy; minor
1797 - 1805 As above. Chert, very light-brown; with white pellets
1805 - 1812 Chert, white, oolitic. Dolomite, very light-brown, very sandy (rounded and frosted medium-grained sand), silicified. Shale, light-green; trace
1812 - 1820 As above (fine- and medium-grained sand). Dolomite, light-gray, microsucrosic; minor
1820 - 1835 Dolomite, light-brown, microcrystalline and very finely crystalline; siliceous in part
1835 - 1842 As in sample from 1805 to 1812 feet
1842 - 1852 Dolomite, light-gray and very light- and light-brown, microcrystalline (dolosiltite); sandy in part (very fine- to medium-grained sand)
1852 - 1859 Dolomite, very light- and light-gray to brownish-gray, microcrystalline to medium-crystalline; sucrosic in part; sandy in part (very fine- to medium-grained sand)
1859 - 1873 As above, very light brown in part. Shale, medium-green; trace
1873 - 1876 Dolomite, very light- and light-gray, finely and medium-sucrosic, glauconitic, slightly argillaceous; very sandy (very fine-grained sand) in part
1876 - 1884 Dolomite, light- to dark-brown, very finely and finely sucrosic
1884 - 1890 Dolomite as above. Dolomite, very light-brown, microcrystalline (dolomicrite)
1890 - 1900 Dolomite, sucrosic, as above. Dolomite, very light-brown, as above; dolosiltite in part, with a few medium-grained pellets
1900 - 1913 Chert, very light-gray, oolitic and pelletal (medium-grained, grain-supported); trace. Dolomite, very light-gray, microcrystalline (dolosiltite), slightly glauconitic, sandy (fine- and medium-grained sand); minor. Dolomite, very light- and light-brown, microcrystalline (dolosiltite); pelletal as above in part
1913 - 1917 Dolomite, very light-gray, microcrystalline(?), very sandy (very fine- to medium-grained sand); very fine sample
1917 - 1920 Dolomite, light-gray and very light-brown, microcrystalline (dolosiltite)
1920 - 1925 Dolomite as above, very finely sucrosic in part. Chert, very light-gray, oolitic (medium- and coarse-grained, grain-supported); heavy trace. Dolomite, very light-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); heavy trace
1925 - 1939 No samples
1939 - 1942 As above, dolomite very sandy (very fine- to coarse-grained sand, rounded in part)
1942 - 1945 As above, dolomite medium sucrosic in part, coarse sand frosted in part
1945 - 1949 As above, rusty sample
1949 - 1954 Dolomite, light-gray, microcrystalline (dolosiltite). Chert, oolitic as above, trace. Rusty sample
1954 - 1959 Dolomite, light-gray and brown, microcrystalline (dolosiltite). Mostly cavings
1959 - 1961 No samples
1961 - 1962 Shale, light- and medium-grained; trace. Chert, white; heavy trace. Dolomite, very light-gray, microcrystalline(?) very sandy (very fine-grained sand). Very fine sample
1962 - 1965 Dolomite, light- to dark-brown, very finely sucrosic; a few pellets as in sample from 1884 to 1900 feet. Dolomite, very light- and

light-brown, microcrystalline (dolomicrite and dolosiltite). Chert, white, oolitic; trace

1965 - 1966 Dolomite, very light- and light-brown as above, sandy (very fine- to medium-grained sand)

1966 - 1974 Dolomite, light-gray and very light- and light-brown, microcrystalline (dolomicrite and dolosiltite); microsucrosic to very finely sucrosic in part

1974 - 1985 Dolomite as above, sandy to very sandy (fine- to coarse-grained sand) in part

1985 - 1994 Dolomite, light-yellowish-gray; microsucrosic to dolomicrite. Chert, white; trace

1994 - 2014 Dolomite, light-brown, very finely sucrosic

2014 - 2024 Dolomite, very light-gray, microsucrosic

2024 - 2036 Dolomite, very light-gray and brown, microcrystalline(?); very finely sucrosic in part. Chert, white and very light-gray; trace. Very fine sample

2036 - 2044 Dolomite as above. Dolomite, very light-brown, sandy (very fine- and fine-grained sand). Very fine sample

2044 - 2046 As above. Chert, white; trace

2046 - 2053 Dolomite, very light-brown to grayish-brown, microcrystalline (dolosiltite)

2053 - 2058 Dolomite as above. Dolomite, light-gray; minor

2058 - 2064 Dolomite, light-yellowish-gray to very light-brown, microcrystalline (dolosiltite). Shale, light- and medium-green; trace

2064 - 2071 Dolomite as above. Dolomite, light-brown, slightly glauconitic. Chert, white, glauconitic; heavy trace

2071 - 2085 Dolomite, very light-brown to light-yellowish-gray, microcrystalline (dolosiltite). Chert, white; heavy trace

2085 - 2100 Dolomite as above. Chert, white; trace

2100 - 2115 Dolomite, very light- to light-brown, microcrystalline (dolosiltite)

2115 - 2130 Dolomite as above, microsucrosic to very finely sucrosic in part

2130 - 2140 Dolomite as above. Chert, white; trace

2140 - 2165 Dolomite as above, trace of pinpoint porosity

2165 - 2230 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline; trace of pinpoint porosity

2230 - 2245 Dolomite as above. Dolomite, white, microcrystalline (dolosiltite)

2245 - 2260 As above, dolomite in small part slightly glauconitic and sandy (very fine-grained sand). Sandstone, light-gray, very fine-grained, slightly glauconitic; trace. "B" Zone

2260 - 2265 As above. Chert, white; trace

2265 - 2270 Dolomite as in sample from 2230 to 2245 feet

2270 - 2280 Dolomite as above. Chert, very light-brownish-gray and white; medium-grained oolites; trace. Dolomite, siliceous; oolites; trace

2280 - 2290 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline; a few pellets; slightly sandy (very fine-grained sand) in part

2290 - 2345 Dolomite as above, glauconitic and sucrosic in part. Sandstone, very light-gray to brownish-gray, very fine-grained, glauconitic; trace

2345 - 2350 Dolomite, very light-yellowish-brown to light-brown, microcrystalline to finely crystalline

2350 - 2400 Dolomite as above. Dolomite, very light-yellowish brown to light-yellowish-gray; sucrosic in part

2400 - 2405 Dolomite as above. Dolomite, light- and medium-brown, microcrystalline; siliceous in part

2405 - 2425 Dolomite as above, predominantly light and medium brown

2425 - 2435 Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite)

2435 - 2470 Dolomite, very light-gray, as above. Dolomite, light- and medium-brown, microcrystalline to finely crystalline

2470 - 2485 Dolomite as above, predominantly light and medium brown

2485 - 2505 As above. Chert, light-brown; trace to 2495 feet

2505 - 2515 Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite), sandy (very fine- to fine-grained sand)

2515 - 2520 Dolomite as above, minor. Dolomite, light- and medium-gray, very finely crystalline

2520 - 2565 Dolomite, brownish-gray, as above

2565 - 2635 As above. Dolomite, very light-gray to brownish-gray, microcrystalline to finely crystalline

2635 - 2645 Dolomite, very light-gray to light-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand)

2645 - 2665 As above, very sandy

2665 - 2685 Dolomite as above, very sandy. Dolomite, medium- and dark-brown, microcrystalline, very sandy (very fine- and fine-grained sand)

2685 - 2700 As above. Dolomite, very light-gray; glauconitic in part

2700 - 2735 Dolomite as above. Siltstone, light-brown, slightly dolomitic

2735 - 2755 As above. Shale, dark-brown, silty, dolomitic; trace. Limestone, very light-brownish-gray to medium-brown, lithographic, fossiliferous; minor; cavings. CONASAUGA FORMATION at 2700 feet (E-log)

2755 - 2775 Shale, dark-grayish-brown, silty, dolomitic. Limestone, very light-gray, light- and medium-brown, lithographic, silty; recrystallized in part; cavings

2775 - 2785 As above. Siltstone, light- to dark-brown, slightly calcareous; minor

2785 - 2790 Limestone, very light- and light-gray, light- and medium-brown, lithographic, fossiliferous (*cf.* 2500-foot interval in #1 Wikoff). Shale, dark-gray and greenish-gray; cavings (Cincinnation). Distinction between caved and in-place samples difficult to recognize

2790 - 2795 As above. Siltstone, light-brown, dolomitic; trace

2795 - 2815 Siltstone as above. Shale, dark-gray, dolomitic; silty in part; minor

2815 - 2850 As above. Siltstone, slightly glauconitic; very micaceous in part

2850 - 2880 Siltstone as above, minor. Shale as above, in part dark reddish brown. Limestone, light- and medium-brown and gray, microcrystalline (calcisiltite), dolomitic, silty; trace to heavy trace; cavings

2880 - 2910 Limestone as above, very slightly glauconitic, fossiliferous. Shale as above. Siltstone as above, heavy trace

2910 - 2930 Limestone as above, micaceous, very silty in part. Shale as above. Siltstone, dark-brown, dolomitic, micaceous, slightly glauconitic

2930 - 2940 As above. Sandstone, light-brown, pinkish-brown, very fine-grained, slightly glauconitic; trace

2940 - 2960 Sandstone as above, glauconitic. Limestone as above, trace. Dolomite, light-gray, bioclastic(?), slightly glauconitic; trace. Shale as above, minor; cavings. Cavings in varying amounts below top of Conasauga

2960 - 2970 Sandstone, light- and medium-brown and light-pinkish-brown, very fine-grained, glauconitic. Cavings

2970 - 2990 As above. Dolomite, medium-brown, microcrystalline, very sandy (very fine-grained sand); trace

2990 - 2995 Cavings

2995 - 3060 As in sample from 2970 to 2990 feet; poor

	samples; may contain dark-gray and minor dark-reddish-brown shale as in Conasauga
3060 - 3070	Sandstone, light-brown to pinkish-yellow, very fine- and fine-grained; poor samples as above. ROME FORMATION at 3045 feet (E-log)
3070 - 3085	Sandstone as above, with a few medium-sized grains. Sandstone, medium- and dark-brown, fine- and medium-grained, very dolomitic; possibly grading into dolomite; trace
3085 - 3090	Sandstone as above; 50% of sample very sandy medium- to dark-brown dolomite or dolomitic sandstone
3090 - 3105	Sandstone, very light- to dark-brown, light-pinkish-brown, very fine- to medium-grained (predominantly fine); glauconitic in part; very dolomitic in part
3105 - 3115	Sandstone as above. Dolomite, very light-gray to light-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- to medium-grained sand)
3115 - 3120	As above, dolomite in part pelletal and oolitic (white and light-brown, fine- and medium-grained, grain-supported)
3120 - 3135	As above, very fine- to coarse-grained sand in dolomite. Dolomite, medium-gray, pelletal and oolitic; trace
3135 - 3150	Sandstone, very light- and light-brown, pinkish-yellow, very fine- to coarse-grained (predominantly fine), dolomitic. Dolomite, light-brown and very light-grayish-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy, pelletal and oolitic (predominantly pelletal, grain-supported; oolites sand-centered)
3150 - 3165	Sandstone, very light- and light-brown, very fine- and fine-grained (a few medium-sized grains); dolomitic in part. Dolomite as above, trace
3165 - 3170	Sandstone as above, predominantly very fine grained; slightly glauconitic. Siltstone, dark-brown, slightly dolomitic; minor
3170 - 3180	Sandstone as above
3180 - 3200	Sandstone as above. Dolomite, medium- and dark-brown and gray, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand), oolitic (grain-supported, sand-centered); minor
3200 - 3250	As above, very fine- to coarse-grained sand in dolomite
3250 - 3265	Sandstone, pinkish-yellow, fine-grained, slightly glauconitic; a few medium and coarse grains. MT. SIMON SANDSTONE at 3250 feet
3265 - 3295	Sandstone as above, fine and medium grained; a few coarse grains
3295 - 3310	Sandstone as above. Sand, coarse-grained, subrounded and rounded and frosted
3310 - 3325	Sandstone, pinkish-yellow, predominantly fine-grained. Sand, medium- and coarse-grained; trace to heavy trace
3325 - 3355	Sandstone as above. Sand as above
3355 - 3360	As above, predominantly sand
3360 - 3375	Sand, medium- to very coarse-grained, rounded and frosted. Sandstone, light-yellowish-gray to very light-pinkish-gray, fine- to coarse-grained, poorly sorted
3375 - 3390	As above. Clay, green, hematitic; trace to heavy trace
3390 - 3395	Sand and sandstone as above. Clay as above. Diorite. See McCormick, 1961. PRECAMBRIAN at 3390 feet?
	Samples below 3395 feet not examined
	TD samples 3457 feet

Clinton County
Wayne Township
VMSL 1065

Kewanee Oil Co. #1 Van Pelt
Permit No. 5
Sample No. 813
Elevation (KB) 1092 feet

Depth (ft)	
	This well located 2500 feet northwest of Permit No. 2; only uppermost and lowermost parts of Sauk sequence examined
1570 - 1620	Limestone, very light- and light-brown and gray, lithographic. Shale, light-grayish-green; trace
1620 - 1625	As above. Dolomite, very light-brown to grayish-brown and gray, microcrystalline (dolosiltite), slightly sandy (very fine- to medium-grained sand). KNOX DOLOMITE at 1620 feet
1625 - 1635	Dolomite as above. Dolomite, medium-brown, very finely crystalline; minor
1635 - 1650	As above. Chert, very light-gray; trace
1650 - 1655	Dolomite as above. Chert, very light-gray; minor
*	* * * *
2970 - 2975	Sandstone, light-brown, very fine-grained, micaceous, dolomitic. Shale, dark-gray to greenish-gray. Siltstone, medium-gray, dolomitic; minor
2975 - 2985	Sandstone as above, pinkish yellow in part, slightly glauconitic. Shale as above. Siltstone as above, dark brown in part
2985 - 2995	Sandstone, pinkish-gray, predominantly fine-grained, slightly glauconitic. ROME FORMATION at 2984 feet (E-log)
2995 - 3005	Sandstone, very light-brown to pinkish-yellow, predominantly fine-grained; dolomitic in part. Siltstone, dark-brown, argillaceous
3005 - 3020	Sandstone as above, slightly glauconitic. Dolomite, medium-brown, microcrystalline (dolosiltite), silty, sandy; a few pellets; minor
3020 - 3030	Dolomite, very light-brown to light-grayish-brown, microcrystalline (dolomicrite and dolosiltite), silty, slightly sandy; a few pellets. Sandstone as above, minor
3030 - 3040	Dolomite as above, light pinkish brown in part. Sandstone as above, scattered medium-grained sand in dolomite and sandstone
3040 - 3050	Sandstone, very light-brown, fine- and medium-grained; grading into very sandy pelletal dolomite
3050 - 3060	Sandstone, very light-brown to light-yellowish-brown, fine- and medium-grained, dolomitic
3060 - 3085	Sandstone as above, very light grayish brown, very fine grained
3085 - 3100	Sandstone as above. Siltstone, medium-gray and dark-brown, dolomitic, slightly glauconitic; sandy in part; minor
3100 - 3130	Dolomite, medium- and dark-brown, microcrystalline (dolomicrite and dolosiltite), silty, sandy to very sandy (very fine- to medium-grained sand), pelletal and oolitic; minor pinpoint porosity. Sandstone as above, minor
3130 - 3135	As above, predominantly light- and medium-brown sandstone
3135 - 3145	Sandstone, light-gray, light-brown and pinkish-yellow, fine- and medium-grained. Dolomite, very light-grayish-brown and medium-brown, microcrystalline (dolosiltite), silty, sandy; trace.
3145 - 3165	Sandstone as above, fine to coarse grained. Sand, fine- to coarse-grained, subrounded and rounded
3165 - 3170	Misplaced sample
3170 - 3180	Sandstone, light- and medium-gray, pinkish-

	yellow, fine- and medium-grained, very glauconitic; partings of dark-gray shale
3180 - 3190	Sandstone as above. Sandstone, very light-brownish-gray, fine- and medium-grained. MT. SIMON SANDSTONE at 3180 feet (E-log)
3190 - 3200	As above, with a few coarse grains
3200 - 3210	Sandstone, pinkish-yellow, fine- and medium-grained. Sand, fine- to coarse-grained, subrounded and rounded (with secondary growths)
3210 - 3220	As above. Amphibolite, trace. See McCormick (1961). PRECAMBRIAN at 3218(?) feet?
3220 - 3259	Not examined
	TD 3259 feet

Columbiana County
Butler Township
Section 31

Tri-State Producing Co.
#1 Sanor
Permit No. 620
Sample No. 2317
Elevation (KB) 1310 feet

Depth (ft)	
8330 - 8370	Limestone, very light-brownish-gray to dark-brown, lithographic to very fine-grained, slightly fossiliferous (brachiopods); pelletal in part
8370 - 8410	Limestone as above. Shale, medium-gray, light-green; trace
8410 - 8440	Limestone as above, 70%. Shale, medium- and dark-gray, dark-brown, very dolomitic; grading into dolomite; 30%
8440 - 8450	As above. Sandstone, white, very fine- and fine-grained, siliceous; trace. Dolomite, light-brown, very finely crystalline; trace. KNOX DOLOMITE at 8439 feet (GRN)
8450 - 8470	Limestone as above, 60%. Shale as above, trace. Dolomite, very light- and light-brown, very finely crystalline, slightly pyritic. Sandstone as above, very light-gray; trace
8470 - 8530	Limestone as above, 20%. Dolomite as above, slightly sandy (fine-grained sand), 80%
8530 - 8560	Dolomite as above, very light brownish gray in part; limestone cavings
8560 - 8580	Dolomite, light-brownish-gray, light- and medium-brown, very finely and finely crystalline, glauconitic; trace in sample from 8570 to 8580 feet
8580 - 8630	Dolomite as above and very light gray; slightly glauconitic from 8600 to 8630 feet. Chert, very light-gray; trace to 8590 feet
8630 - 8650	Dolomite as above, sandy (rounded and frosted fine- to coarse-grained sand); grading into sandstone. Chert, white; trace; cavings. ROSE RUN sandstone at 8635 feet (GRN)
8655	Dolomite and sandstone as above, circulation samples
	TD samples 8655 feet

Columbiana County
Center Township
Section 6

Statewide Oil & Gas Co.
#1 Mrugala
Permit No. 631
Sample No. 2335
Elevation (KB) 1145 feet

Depth (ft)	
	Sample gap from 8500 to 8785 feet
	KNOX DOLOMITE at 8630 feet (GRN)
8785 - 8815	Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite) to finely crystalline, very slightly sandy (fine- and medium-grained sand); limestone cavings. Chert, white; trace
8815 - 8830	Dolomite as above. Sandstone, very light-gray, fine-grained, siliceous; trace. Chert, white; trace
8830 - 8840	Dolomite, very light-brownish-gray, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (fine- and medium-grained sand). ROSE RUN sandstone at 8835 feet
8840 - 8850	Dolomite as above, very sandy, friable; grading into sandstone
8850 - 8860	Sandstone as above, fine and medium grained; 70%. Dolomite as above, 30%
8861	Sandstone as above, 90%. Dolomite as above, 10%. Circulation sample
8862	Sandstone as above, 80%. Dolomite as above, 20%. Circulation sample
	TD samples 8862 feet

Columbiana County
Center Township
Section 7

Tri-State Producing Co.
#1 Sell
Permit No. 607
Sample No. 2246
Elevation (KB) 1300 feet

Depth (ft)	
8700 - 8730	Limestone, dark-brown, lithographic
8730 - 8760	Limestone as above, medium brown in part. Shale, very dark-brown; trace
8760 - 8770	Limestone as above, 90%. Shale as above, silty, 10%
8770 - 8775	As above. Dolomite, light-brown, microcrystalline (dolosiltite), silty; trace
8775 - 8805	Shale, very dark-gray, very silty; grading into dolomite
8805 - 8815	Siltstone, medium-greenish-gray, argillaceous, dolomitic
8815 - 8820	Siltstone as above, medium gray to brownish gray; 90%. Shale, very dark-brown, silty; 10%
8820 - 8825	Sandstone, light-gray, very fine-grained; 30%. Siltstone as above, 50%. Shale as above, 20%
8825 - 8830	Sandstone as above, poorly sorted, very fine to coarse grained; 70%. Siltstone, light-greenish-gray, sandy (very fine-grained sand); 30%
8830 - 8835	Sandstone as above, 90%. Siltstone as above, 10%
8835 - 8840	Sandstone, light-gray, very fine- to coarse-grained (predominantly medium and coarse); 70%. Shale, very dark-gray, very silty; 30%
8840 - 8845	Sandstone as above, 30%. Shale as above, 5%. Dolomite, very light-brownish-gray, dense to finely crystalline; silicified to chert in part; 65%. KNOX DOLOMITE at 8842 feet (GRN)
8845 - 8850	As above
8850 - 8855	Dolomite as above, sandstone cavings
8855 - 8873	Dolomite, light-brown, slightly grayish, microcrystalline (dolosiltite) and very finely crystalline, pyritic; sandstone cavings
8873 - 8885	Dolomite as above, very light grayish brown to brownish gray. Chert, white; trace
8885 - 8900	Dolomite, very light- and light-grayish-brown and brown, microcrystalline (dolomicrite) to very finely crystalline. Chert, white; trace
8900 - 8905	Dolomite, light-brown and grayish-brown, microcrystalline (dolomicrite) to very finely crystalline; microsucrosic in part; poor pinpoint porosity. Chert, white; trace
8905 - 8915	Dolomite as above, 60%. Sandstone, fine-grained, very friable; rounded and frosted grains; 40%
8915 - 8920	Sandstone as above, 70%. Dolomite as above, 30%
8920 - 8925	Dolomite, very light-grayish-brown, very finely crystalline; sucrosic in part. Chert, white; trace. Sandstone as above, heavy trace. Pyrite, trace
8925 - 8935	Dolomite as above, finely crystalline in part. Dolomite, light-grayish-brown to light-brownish-gray, microcrystalline (dolosiltite); micro-

sucrosic in part. Chert, white; heavy trace

8935 - 8943 Dolomite as above, sandy (fine- to coarse-grained sand)

8943 - 8955 Cavings

8955 - 8960 No samples

8960 - 8965 Cavings

8965 - 8985 Dolomite, very light-brownish-gray and light-brown, microcrystalline (dolosiltite). Cavings

8985 - 8990 Dolomite as above, very finely crystalline and sucrosic in part. Chert, white; filling fracture in dolomite; trace. Cavings

8990 - 9030 Dolomite as above. Cavings

TD samples 9030 feet

Columbiana County
Hanover Township
Section 12

Management Control Corp.
#3 Murray
Permit No. 648
Sample No. 2366
Elevation (KB) 1193 feet

Depth (ft)

8600 - 8650 Limestone, very light-gray, medium- and dark-brown, predominantly lithographic, pelletal (grain-supported), slightly fossiliferous (brachiopods); patches of sparry calcite Shale, dark-brown to brownish-gray; becoming medium gray to greenish gray at 5830 feet; heavy trace

8650 - 8660 Limestone, light- and medium-brown, lithographic to fine-grained, dolomitic, argillaceous, silty; pelletal in part; 90%. Shale, medium-gray to greenish-gray, silty; 10%. Siltstone and very fine-grained sandstone, light-brown and gray; trace

8660 - 8665 Limestone, medium- and dark-brown, predominantly lithographic, argillaceous, silty; pelletal in part; grading into shale. Shale as above, trace

8665 - 8670 As above. Siltstone and very fine-grained sandstone, light-gray and brown; trace

8670 - 8675 Limestone as above, 50%. Sandstone, very light-gray, very fine- and fine-grained, siliceous; some medium- and coarse-grained sand; 30%. Siltstone and shale as above, 20%. Circulation samples at 8675 feet

8675 - 8690 Shale, medium- and dark-gray, medium-greenish-gray; 20%. Sandstone as above, coarse grained in part, 30%. Siltstone, light-brown, argillaceous, dolomitic; 20%. Limestone as above, 30%. Cavings

8690 - 8695 Dolomite, very light- and light-brown, very finely and finely crystalline; 20%. Sandstone as above, 20%. Limestone, shale, and siltstone as above, 60%. KNOX DOLOMITE at 8673 feet (GRN)

8695 - 8700 Dolomite as above, very finely sucrosic in part; patches of sparry dolomite. Chert, very light-gray; trace. Cavings (including anhydrite and sandstone)

8700 - 8730 Dolomite as above, very light brownish gray in part; becoming slightly pyritic at 8705 feet. Cavings (including sandstone)

8730 - 8735 Dolomite, very light-brownish-gray and grayish-brown to light-brown, very finely and finely crystalline, sandy (fine-grained sand); some chert in matrix

8735 - 8740 Dolomite as above. Chert, light-brown to grayish-brown, fractured; trace to 8740 feet. Sandstone, very light-gray, fine- and medium-grained, siliceous; trace

8740 - 8750 As above, sand in dolomite fine and medium grained

8750 - 8760 Dolomite, very light-brownish-gray and grayish-brown to light-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (fine- to coarse-grained sand, predominantly fine) in small part; some hairline fractures filled with sparry dolomite

8760 - 8790 Dolomite as above, slightly sandy (very fine- and fine-grained sand), microcrystalline (dolomicrite and dolosiltite) and very finely crystalline; slightly pyritic from 8770 to 8785 feet

8790 - 8810 Dolomite as above, in small part medium brown; very finely and finely sucrosic; excellent pinpoint porosity

8810 - 8855 Dolomite, very light-grayish-brown and brownish-gray to light-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly silty and pyritic; light-brown dolomite pelletal (fine-grained, grain-supported), present as trace

8855 - 8860 Dolomite, very light- and light-brown and gray, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine- and fine-grained sand). Sandstone, fine- and medium-grained, siliceous; trace

8860 - 8890 Dolomite as above, slightly pyritic. Chert, very light-gray; trace

8890 - 8895 Dolomite, very light-brownish-gray to dark-brown, very finely crystalline, silty; in small part grading into dark-brown siltstone. Sandstone, fine-grained, siliceous, slightly glauconitic; trace

8895 - 8900 As above, dolomite containing a few coarse sand grains

8900 - 8905 Dolomite and siltstone as above, slightly glauconitic

8905 - 8910 Dolomite, very light-brownish-gray and grayish-brown, very finely to medium-crystalline, sandy (very fine- to coarse-grained sand); grading into poorly sorted sandstone. ROSE RUN sandstone at 8905 feet

8910 - 8930 As above, sandstone in part siliceous

8930 - 8945 Sandstone, white, fine- to coarse-grained, moderately sorted, siliceous and dolomitic; 70%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy; 30%

8945 - 8955 Sandstone as above, very coarse grained in part, 80%. Dolomite as above, 20%

8955 - 8960 Sandstone as above, siliceous, 30%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy; oolitic in small part; 70%. Chert, white and light-brown, sandy, oolitic (sand-centered); heavy trace

8960 - 8970 Sandstone as above, 30%. Dolomite as above, nonoolitic, 70%. Chert as above, trace to 8965 feet

8970 - 8985 Sandstone, white to light-gray, fine- to coarse-grained, poorly sorted, siliceous; 90%. Dolomite as above, 10%. Chert as above, trace to 8975 feet

8985 - 8995 Sandstone as above, dolomitic in part, 70%. Dolomite as above, 30%

8995 - 9000 Dolomite, very light-grayish-brown to brownish-gray, microcrystalline (dolosiltite), sandy (predominantly very fine- and fine-grained sand); pelletal (mud-supported) in small part; 80%. Sandstone as above, predominantly very fine and fine grained, 20%

9000 - 9010 Dolomite as above, grading into sandstone

9010 - 9020 As above, sandstone very fine to coarse grained, poorly sorted

9020 - 9030 Sandstone, white and very light-brownish-gray, fine- to coarse-grained, poorly sorted, dolomitic and (predominantly) siliceous; 70%. Dolomite as above, 30%

9030 - 9035 Sandstone as above, 80%. Dolomite as above,

20%

9035 - 9052 Dolomite, very light-gray and brown, microcrystalline (dolosiltite), sandy; pelletal in part, grading into fine- to coarse-grained sandstone

9052 - 9054 Dolomite, very light- and light-grayish-brown and brownish-gray, microcrystalline (dolosiltite), sandy (very fine- to coarse-grained sand). Sandstone, white, fine- and medium-grained, siliceous; trace

9054 - 9062 Dolomite as above, 95%. Sandstone as above, 5%

9062 - 9070 Dolomite as above, very slightly sandy, 90%. Sandstone as above and light-grayish-brown, 10%

9070 - 9080 Dolomite, very light-brownish-gray and gray to light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (fine- and medium-grained sand, including a few coarse grains); pelletal in part (fine-grained, with sparry matrix); 95%. Sandstone, white and very light-brown, fine- to coarse-grained, siliceous; 5%

9080 - 9090 Dolomite as above. Sandstone as above, trace

9090 - 9105 Dolomite, very light- to dark-brown, very light-brownish-gray, microcrystalline (dolosiltite), slightly sandy to very sandy (fine- to coarse-grained sand); pelletal in large part (fine- and medium-grained, mud- and grain-supported)

9105 - 9130 Dolomite as above. Sandstone, white, fine- and medium-grained, siliceous; heavy trace. Chert, white, oolitic, sandy; trace

9130 - 9210 Dolomite, very light- to dark-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy (very fine- and medium-grained sand); pelletal as above in small part (dark-brown dolomite); grading into very fine- and fine-grained sandstone, becoming fine to coarse grained at 9190 feet

9210 - 9245 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy; pelletal in part; grading into poorly sorted fine- to coarse-grained sandstone. CONASAUGA FORMATION at 9194 feet (GRN)

9245 - 9250 Sandstone, very light-gray, light-brown, predominantly fine-grained, dolomitic; 50%. Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline, pelletal, very sandy; 40%. Shale and siltstone, dark-brown; 10%

9250 - 9260 Sandstone as above, fine and medium grained with some coarse-grained sand, 90%. Dolomite, very light-grayish-brown and brown, microcrystalline (dolosiltite), very sandy; 10%. Shale and siltstone, dark-brown; trace

9260 - 9275 Sandstone as above, 60%. Dolomite, light-grayish-brown to medium-brown, microcrystalline (dolosiltite), very sandy; pelletal in part; grading into fine- and medium-grained sandstone; 40%

9275 - 9280 Sandstone as above, 50%. Dolomite as above, 40%. Siltstone, dark-brown; 10%

9280 - 9285 Siltstone, dark-brown; 80%. Sandstone as above, 15%. Dolomite as above, 5%

9285 - 9295 Siltstone as above, 60%. Dolomite, light-brownish-gray to medium-brown, microcrystalline (dolosiltite); pelletal in part; 20%. Sandstone, very light- and light-gray, light-brown, predominantly fine-grained; 20%

9295 - 9296 Siltstone as above, 85%. Dolomite as above, 10%. Sandstone as above, 5%

9296 - 9305 Sample contaminated with cavings

9305 - 9330 Siltstone, light-grayish-brown, medium- to dark-brown, dolomitic; 80%. Dolomite and sandstone as above, 20%

9330 - 9340 Dolomite, very light- and light-brown, very light-gray, microcrystalline (dolosiltite) and very finely crystalline; 50%. Siltstone as above, 50%. ROME FORMATION at 9310 feet (GRN)

9340 - 9350 Dolomite, very light-brownish-gray and brown, light-gray, light- and medium-brown, microcrystalline (dolosiltite) to medium-crystalline, slightly sandy (fine- and medium-grained sand); pelletal in part

9355 - 9360 Dolomite as above, in small part very sandy; grading into fine- and medium-grained sandstone. Quartz crystals (doubly terminated), trace

9360 - 9395 Dolomite, very light-gray, brownish-gray, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline; pelletal in small part. Sandstone, very light-gray, fine- and medium-grained, siliceous; secondary quartz crystals; trace

9395 - 9400 Dolomite as above, predominantly very light brown, microcrystalline (dolosiltite)

9400 - 9405 Dolomite, very light-grayish-brown and light-brown, predominantly very finely and finely crystalline. Sandstone, very light-grayish-brown, very fine-grained, dolomitic; trace

9405 - 9420 Dolomite, very light-brownish-gray and grayish-brown, light-brown, microcrystalline (dolosiltite) to finely crystalline, slightly sandy (very fine-grained sand)

9420 - 9445 Dolomite as above, dark brown and pelletal in part; slightly pyritic

9445 - 9455 Dolomite, very light-brownish-gray, grayish-brown, light- to dark-brown, microcrystalline (dolosiltite) to finely crystalline; in part pelletal (medium-grained, grain-supported). Sandstone, very light-gray, fine- to coarse-grained, dolomitic; grading into dolomite; trace

9455 - 9470 Dolomite as above, light gray in part, sandy (fine- to coarse-grained sand); 95%; grading into very light- and light-gray sandstone, 5%

9470 - 9480 Dolomite, very light- to medium-brown and gray, microcrystalline (dolomicrite and dolosiltite), slightly sandy (fine- to coarse-grained sand); in part pelletal and oolitic

9480 - 9525 Dolomite, predominantly very light- and light-brown to grayish-brown, microcrystalline (dolosiltite), slightly pelletal, slightly sandy (very fine-grained sand)

9525 - 9530 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; pelletal in part

9530 - 9590 Dolomite as above, in part light gray and brownish gray, microcrystalline (dolomicrite)

9590 - 9595 Dolomite as above, slightly sandy in part (fine- and medium-grained sand)

9595 - 9605 Dolomite as above, slightly pyritic, very slightly sucrosic

9605 - 9665 Dolomite, very light-grayish-brown to dark-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand); pelletal in part (fine- and medium-grained, mud- and grain-supported, flattened in part); becoming slightly oolitic or superficially oolitic at 9620 feet

9665 - 9675 Dolomite as above, predominantly very light-brown and grayish-brown, microcrystalline (dolosiltite) and very finely crystalline

9675 - 9685 Dolomite, very light- and light-gray, very light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine-grained sand); pelletal in part

9685 -	9734	Dolomite as above, very finely and finely crystalline in part
9734 -	9740	Dolomite, very light-brownish-gray and grayish-brown, light- and medium-gray, brown, microcrystalline (dolomicrite and dolosiltite), sandy in part (very fine- to medium-grained sand); pelletal in part
9740 -	9750	Dolomite as above, in small part very finely and finely crystalline
9750 -	9755	Dolomite, very light- and light-gray, light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), pelletal (fine- and medium-grained, mud- and grain-supported); a few oolites
9755 -	9760	Dolomite as above, predominantly very light and light gray, grayish brown
9760 -	9775	Dolomite as in sample from 9750 to 9755 feet
9775 -	9790	Dolomite, very light- and light-gray, brown, microcrystalline (dolomicrite and dolosiltite), slightly pelletal, slightly sandy (very fine- to medium-grained sand)
9790 -	9830	Dolomite, very light- and light-gray, light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), pelletal, sandy (very fine- to medium-grained sand)
9830 -	9900	Dolomite as above, with a few oolites (medium-grained); very fine- to coarse-grained sand in dolomite
9900 -	9915	Dolomite as above, predominantly dark brown to grayish brown
9915 -	9930	Dolomite, predominantly dark-brown to grayish-brown, microcrystalline (dolosiltite), pelletal (fine- and medium-grained, grain-supported); sandy to very sandy (predominantly very fine- to medium-grained sand); few oolites. Sandstone, very light-gray, fine- to coarse-grained, siliceous; trace
9930 -	9943	As above, very fine- to coarse-grained sand in dolomite
9943 -	9960	Dolomite as above, in part grading into fine- to coarse-grained sandstone
9960 -	9970	Dolomite, dark-brown, microcrystalline (dolosiltite), pelletal, sandy (fine- to coarse-grained sand); 70%. Sandstone, very light-gray, fine- to coarse-grained, poorly sorted; 30%
9970 -	9975	Dolomite, light-gray, medium-grayish-brown, microcrystalline (dolosiltite), pelletal; sandy to very sandy in part (very fine- to coarse-grained sand); 60%. Sandstone, very light-gray and brownish-gray, very fine- to coarse-grained, siliceous; 40%
9975 -	9980	Dolomite as above, 50%. Sandstone as above, 50%
9980 -	9985	Sandstone as above, 70%. Dolomite as above, 30%
9985 -	10,000	Sandstone as above, 50%. Dolomite as above, 50%
10,000 -	10,010	Dolomite, 70%. Sandstone as above, 30%
10,010 -	10,025	Dolomite as above, 50%. Sandstone as above, 50%
10,025 -	10,035	Sandstone, colorless, fine- to coarse-grained, siliceous, friable; 70%. Dolomite as above, 30%. MT. SIMON SANDSTONE at 10,025 feet
10,035 -	10,050	Sandstone, very light-gray and brownish-gray, very fine- to coarse-grained, siliceous; 60%. Dolomite as above, very sandy; 40%
10,050 -	10,055	Sandstone as above, 70%. Dolomite as above, 30%
10,055 -	10,060	Sandstone as above, 80%. Dolomite as above, 20%
10,060 -	10,070	Sandstone as above, 60%. Dolomite as above, 40%
10,070 -	10,155	Sandstone, very light- and light-gray, very light- and light-brownish gray, very fine- to coarse-grained; in part siliceous; in part dolomitic. Dolomite as above, trace to heavy trace
10,155 -	10,120	Sandstone, very light-gray, brownish-gray, very fine- and fine-grained, siliceous
10,120 -	10,180	Sandstone as above, very fine to medium grained; some coarse-grained sand; slightly pyritic and very fine to coarse grained from 10,150 to 10,180 feet
10,180 -	10,191	Sandstone as above, very friable in part; chloritic and arkosic from 10,185 to 10,191 feet
10,191 -	10,235	Sandstone, arkosic, white, very light-greenish-gray, pinkish-gray, red (hematitic), very fine- to coarse-grained; chloritic in part; few pieces of rhyolite from 10,215 to 10,235 feet
10,235 -	10,242	Sandstone, conglomeratic, very friable; arkosic as above

TD samples 10,242 feet

Columbiana County
Hanover Township
Section 34

East Ohio Gas Co. #1
Burrows Comm.
Permit No. 559
Sample No. 1970
Elevation (KB) 1170 feet

Depth (ft)		
		Samples above 8560 feet not examined
8560 -	8600	Limestone, very light- to medium-brown (predominantly medium) fine-grained; sublithographic in part
8600 -	8620	Limestone as above. Shale, medium-grayish-green; minor cement; heavy trace
8620 -	8650	Shale, dark-brownish-gray to greenish-gray, dolomitic. Limestone as above, heavy trace
8650 -	8670	Shale, light- and medium-grayish-green; sandy in part. Limestone and shale as above, minor. Sandstone, very fine-grained, dolomitic; trace
8670 -	8675	Shale, light- and medium-grayish-green, sandy. Sandstone, very fine- and fine-grained, siliceous. Sand, medium-grained, subrounded and rounded. Shale and limestone as above (shale brown), minor
8675 -	8690	Sand and sandstone as above, fine- to coarse-grained (predominantly medium) sand. Shale and limestone as above, gray, green, and brown; minor
8690 -	8695	Sand, medium- and coarse-grained, rounded. Sandstone, very fine- and fine-grained, siliceous; minor
8695 -	8710	Sand as above. Dolomite, very light-grayish-brown to light-brown, very fine- to medium-grained, very finely and finely crystalline, dense, sandy, slightly glauconitic. KNOX DOLOMITE at 8695 feet (GRN)
8710 -	8720	Dolomite as above, very light yellowish gray in part. Sand as above. trace
8720 -	8740	Dolomite, very light-yellowish-gray, yellowish-brown, and light-brown, very fine- to medium-grained, very finely and finely crystalline, dense. Sand, fine- and medium-grained, subangular to rounded; trace. Chert, light-yellowish-gray; trace
8740 -	8760	Dolomite as above. Chert as above, heavy trace. Siltstone, light-gray; trace
8760 -	8810	Dolomite as above. Chert as above, trace.

Sand, medium-grained, subangular; trace

8810 - 8830 Dolomite, light- and medium-brown and very light-yellowish-brown, fine-grained, finely crystalline. Chert, light-yellowish-gray; trace

8830 - 8840 Dolomite as above. Sand, medium-grained, subrounded; trace

8840 - 8860 Dolomite, very light-yellowish-gray and light-brown, very fine- and fine-grained, very finely and finely crystalline. Chert, light-yellowish-brown; trace

8860 - 8870 Dolomite, very light-yellowish-gray, light- and medium-brown, cryptocrystalline to very finely and finely crystalline. Chert, very light-yellowish-brown and dark-brown; heavy trace

8870 - 8890 Dolomite, medium- and dark-brown, very fine- and fine-grained, very finely and finely crystalline. Dolomite as above

8890 - 8900 Dolomite, very light-yellowish-gray to very light-yellowish-brown, very fine- and fine-grained, very finely and finely crystalline, very silty

8900 - 8910 Dolomite as above, slightly silty

8910 - 8940 Dolomite as above. Sandstone, very fine-grained; trace. Siltstone, very glauconitic; trace

8940 - 8950 Dolomite as above. Sand, medium-grained, rounded. ROSE RUN sandstone at 8954 feet (GRN)

8950 - 8960 Sand as above

TD samples 8960 feet

Columbiana County
Knox Township
Section 12

East Ohio Gas Co. #1
Denny
Permit No. 592
Sample No. 2168
Elevation (KB) 1163 feet

Depth (ft)

Samples above 8000 feet not examined

8000 - 8020 Limestone, light- and medium-brown, very fine-grained, sublithographic

8020 - 8030 Limestone as above. Shale, light- and medium-gray to greenish-gray

8030 - 8050 Limestone as above. Shale, dark-brown and grayish-brown

8050 - 8080 Limestone as above. Shale as above. Shale, dark-gray and greenish-gray, dolomitic

8080 - 8090 Shale as above. Siltstone, light-gray, dolomitic. Sandstone, light-gray, very fine-grained, dolomitic. KNOX DOLOMITE at 8089 feet (GRN)

8090 - 8097 No sample

Core from 8097 to 8126.5 feet

8097 Dolomite, very light-yellowish-gray. Sand, very fine- and fine-grained, subangular; minor

8097 - 8098 Dolomite, light- and medium-brown, finely crystalline; some vuggy porosity

8098 - 8099 Dolomite as above

8099 - 8100 Dolomite, medium- and dark-brown, microcrystalline and very finely crystalline; vugs(?) filled with silt-sized very light-brownish-gray and light-brown dolomite

8100 - 8102 Dolomite as above, not vuggy

8102 - 8106 Dolomite, medium-brown, finely crystalline, vuggy; with recrystallized dolomite

8106 - 8107 Dolomite as above, medium crystalline in part

8107 - 8114 Dolomite, light- and medium-brown, finely crystalline

8114 - 8115 Dolomite, medium- and dark-brown, finely and medium-crystalline

8115 - 8116 Dolomite, light- and medium-brown, finely and medium-crystalline, vuggy

8116 - 8118 Dolomite, light- and medium-brown, dense, microcrystalline

8118 - 8119 Dolomite, medium-brown, finely crystalline

8119 - 8121 Dolomite, medium- and dark-brown, microcrystalline and very finely crystalline

8121 - 8122 Dolomite, very light- to medium-brown, finely crystalline

8122 - 8126.5 Dolomite, light- and medium-brown, very finely and finely crystalline

8126.5 - 8129 No sample

8129 - 8140 Dolomite, medium- and dark-brown, very finely and finely crystalline

8140 - 8145 Cavings (shale)

8145 - 8175 Dolomite, very light-brownish-gray, microcrystalline and very finely crystalline (most of sample shale cavings)

8175 - 8195 Dolomite, medium- and dark-brown, finely crystalline; mostly cavings

8195 - 8200 Dolomite, very light-brownish-gray to light-brown, very finely to finely crystalline; mostly cavings

8200 - 8205 Dolomite, light- and medium-brown to grayish-brown, finely and medium-crystalline, very silty

8205 - 8210 Dolomite as above, predominantly medium and dark brown

8210 - 8215 As above. Dolomite, light-brownish-gray, medium-crystalline, glauconitic; trace

8215 - 8220 Dolomite as above, light and medium brown in part

8220 - 8225 Dolomite as above. Dolomite, light- and medium-brown, very finely and finely crystalline

8225 - 8235 Dolomite, medium- and dark-brown, finely and medium-crystalline

8235 - 8240 Dolomite as in sample from 8210 to 8215 feet, slightly glauconitic

8240 - 8245 Dolomite, light-brownish-gray and medium- and dark-brown, finely and medium-crystalline

8245 - 8249 Dolomite, very light-brownish-gray to yellowish-gray, microcrystalline, dense, sandy; grading into dolomitic siliceous fine- to medium-grained (predominantly fine) sandstone; grains subangular to rounded (predominantly subangular)

Core from 8249 to 8295 feet

8249 - 8250 Dolomite, medium-brown, microcrystalline and very finely crystalline

8250 - 8251 Dolomite, medium-greenish-gray, microcrystalline, dense, argillaceous. Chert, milky

8251 - 8252 Dolomite, light-brown, microcrystalline and very finely crystalline, dense

8252 - 8254 Dolomite as above, light and medium greenish gray in part

8254 - 8255 Dolomite, light- and medium-brown, finely crystalline

8255 - 8256 Dolomite as above, micaceous in part

8256 - 8257 Dolomite, light- and medium-brown, dense and microcrystalline; layers of sandy dolomite. Sandstone, fine- and medium-grained

8257 - 8258 Sandstone, fine- and medium-grained (predominantly medium), siliceous; grains subrounded. ROSE RUN sandstone at 8257 feet (GRN)

8258 - 8259 Sandstone as above, interbedded with very sandy (very fine- to fine-grained sand) light-brown dolomite

8259 - 8262 Sandstone, very fine- and fine-grained, silidolomitic in part

8262 - 8264 As in sample from 8258 to 8259 feet

8264 - 8265 Dolomite as above, sandy, glauconitic. Sandstone, white, very fine-grained

8265 - 8266 Dolomite, light- and medium-greenish-gray, microcrystalline; sandy in part (fine- to coarse-grained sand, better rounded with increasing grain size)

8266	- 8267	Dolomite, light- and medium-greenish-gray to light-brown, finely crystalline; sandy and micaceous in part
8267	- 8269	Dolomite, very light-brown, microcrystalline and very finely crystalline
8269	- 8270	Dolomite, light- and medium-greenish-gray, microcrystalline and very finely crystalline; separated by clay seam from very sandy (rounded fine- and medium-grained, predominantly medium, sand) finely and medium-crystalline pink dolomite
8270	- 8271	Sandstone, white, fine- and medium-grained (predominantly fine), very slightly glauconitic; pencil-thin laminations having clay matrix
8271	- 8273	Sandstone, white, very fine- and fine-grained, very slightly glauconitic
8373	- 8276	Sandstone, white, fine- to coarse-grained; poorly sorted with dark laminations as above
8276	- 8277	Sandstone as above. Sandstone, coarse-grained, dolomitic; grains rounded
8277	- 8278	Sandstone as above, dolomitic, poorly sorted
8278	- 8279	Sandstone as above, mostly medium and coarse grained. Shale, medium- and dark-grayish-green
8279	- 8281	Sandstone as above
8281	- 8282	Sandstone, medium-grained, dolomitic, slightly glauconitic; containing pieces (small pebble size) of microcrystalline light-gray dolomite; interbedded with sandy finely crystalline light-brown dolomite
8282	- 8286.5	Sandstone, white, fine- and medium-grained (predominantly fine), siliceous; slightly laminated as in sample from 8273 to 8276 feet
8286.5	- 8288	Sandstone, white, fine-grained, siliceous
8288	- 8291	Sandstone, fine- and medium-grained, laminated, siliceous
8291	- 8293	Sandstone, white, fine-grained, siliceous
8293	- 8294	Sandstone, medium-grained, siliceous; interbedded with green shale and sandy dark-brown dolomite
8294	- 8295	Sandstone, white, fine- to coarse-grained, siliceous
		TD 8295 feet

Columbiana County
Madison Township
Section 15

John T. Galey #1 Gilson Unit
Permit No. 626
Sample No. 2331
Elevation (KB) 1137 feet

Depth (ft)		
9300	- 9350	Limestone, very dark-brown, lithographic and microcrystalline (calcisiltite)
9350	- 9360	Limestone as above, medium brown in part. Shale, black
9360	- 9390	As above. Shale, light-green, silty; trace
9390	- 9400	Siltstone, medium-gray, dolomitic
9400	- 9440	Siltstone as above. Shale, black. Limestone, medium- to very dark-brown, lithographic and microcrystalline (calcisiltite)
9440	- 9480	Siltstone, very light- to dark-brown, medium-gray, dolomitic. Sandstone, very fine- and fine-grained, very friable; trace to heavy trace
9480	- 9500	Dolomite, very light-brownish-gray, microcrystalline (dolomicrite) to finely crystalline. Sandstone as above, trace. KNOX DOLOMITE at 9480 feet
9500	- 9510	Sandstone, fine- and medium-grained, very friable; 30%. Siltstone and shale, very dark-gray; 70%. Wells Creek lithology; mislabeled sample?
9510	- 9600	Dolomite as in sample from 9480 to 9500 feet, slightly sandy (fine-grained sand)
9600	- 9620	Dolomite, very light-grayish-brown and brownish-gray to light-brown, microcrystalline (dolomicrite) to very finely crystalline, sandy (fine-grained sand)
9620	- 9630	Dolomite as above, dull and greasy textured
9630	- 9640	Dolomite, very light- and light-brown, microcrystalline (dolomicrite) to finely crystalline, slightly sandy (very fine- and fine-grained sand); clayey matrix
9640	- 9650	Dolomite, very light-brownish-gray, very finely and finely crystalline, probably sucrosic; slightly sandy as above. Chert, white; trace. Very fine sample
9650	- 9660	As in sample from 9620 to 9630 feet
9660	- 9670	Dolomite, very light-brown, microcrystalline (dolomicrite) to very finely crystalline
9670	- 9680	Dolomite as above, very light brownish gray, slightly sandy (very fine- and fine-grained sand). Dolomite, crystalline; trace to heavy trace
9680	- 9720	Dolomite as above. Chert, white; trace
9720	- 9740	Dolomite, light- to medium-grayish-brown, microcrystalline (dolosiltite)
9740	- 9760	Dolomite, very light-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand), pyritic; cavings
9760	- 9780	Dolomite as above, very pyritic
9780	- 9790	Dolomite as above, very slightly pyritic
9790	- 9830	Dolomite, very light-grayish-brown, microcrystalline (dolomicrite); slightly sandy (very fine- and fine-grained sand) from 9810 to 9830 feet
9830	- 9840	Dolomite, medium-grayish-brown, microcrystalline (dolomicrite and dolosiltite)
9840	- 9860	Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolomicrite and dolosiltite), pyritic, sandy (very fine- and fine-grained sand). Wells Creek cavings
9860	- 9880	Dolomite as in sample from 9830 to 9840 feet
9880	- 9890	Sandstone, fine- and medium-grained, very friable (sand mostly rounded and frosted); 80%. Dolomite as above, light and medium brown in part; 20%. ROSE RUN sandstone at 9880 feet
9890	- 9910	Sandstone as above
9910	- 9940	Sand, fine- and medium-grained, predominantly angular. Chert, very light-gray; trace. Wells Creek cavings
9940	- 9950	Sandstone, fine- and medium-grained; some coarse-grained sand; grains angular to rounded and frosted. Chert, very light-brown; trace
9950	- 9980	Sandstone as above, predominantly fine grained
9980	- 9990	Sandstone as above, fine and medium grained, 60%. Dolomite, very light- and medium-gray, microcrystalline (dolosiltite); 40%
9990	- 10,000	Sandstone, fine- and medium-grained, very friable; 95%. Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite); 5%
10,000	- 10,020	Sandstone as above
10,020	- 10,030	Sandstone as above, 50%. Dolomite, very light-grayish-brown and light-brown, microcrystalline (dolomicrite and dolosil-

	tite); 50%
10,030 - 10,040	As above, sandstone predominantly fine grained
10,040 - 10,050	Siltstone, light-gray, dolomitic; 90%. Sandstone as above, 10%. Shale, light-bluish-green; trace (siltstone cavings?)
10,050 - 10,060	Sandstone, very fine- and fine-grained, very friable; 80%. Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite); 20%
10,060 - 10,070	Sandstone as above, 60%. Dolomite as above, 40%
10,070 - 10,090	Sandstone as above, heavy trace. Dolomite, light-grayish-brown to dark-gray, microcrystalline (dolosiltite), sandy (very fine-grained sand).
10,090 - 10,100	Dolomite as above, 80%. Sandstone, fine-grained, very friable; 20%
10,100 - 10,110	Sandstone, fine- and medium-grained, very friable; 50%. Dolomite, light-grayish-brown to dark-gray, microcrystalline (dolomicrite and dolosiltite); 50%
10,110 - 10,120	Dolomite as above. Sandstone as above, trace
10,120 - 10,130	Dolomite as above, 60%. Sandstone as above, 40%
10,130 - 10,140	Dolomite as above. Sandstone as above, trace
10,140 - 10,150	Dolomite as above, 80%. Sandstone as above, 20%
10,150 - 10,160	Sandstone as above, 70%. Dolomite as above, 30%
10,160 - 10,170	Dolomite, very light-brown, medium-brown and grayish-brown, microcrystalline (dolosiltite); 80%. Sandstone as above, 20%
10,170 - 10,197	Sandstone, very fine- to medium-grained, very friable; 70%. Dolomite as above, 30%
	TD samples 10,197 feet in Conasauga Formation

Crawford County
Chatfield Township
Section 34

Hawkins & Hawkins #1
Leonardt
Permit No. 50
Sample No. 1743
Elevation (KB) 1008 feet

Depth (ft)	
	Samples above 2950 feet not examined
2950 - 2970	Limestone, very light-brownish-gray and yellowish-gray and light- and medium-brown, dense to fine-grained
2970 - 2980	Limestone as above. Shale, dark-brown and light- and medium-grayish-green; trace
2980 - 2990	Dolomite, very light-brown and grayish-brown, fine- and medium-grained, finely crystalline, very sandy (very fine- and fine-grained sand), glauconitic (very fine glauconite); possibly grading into dolomitic sandstone. KNOX DOLOMITE at 2980 feet (GRN)
2990 - 3010	Dolomite, very light- and light-brown to grayish-brown and yellowish-gray, fine- and medium-grained, finely crystalline, silty and sandy (very fine-grained sand). Sandstone, white, fine-grained; trace
3010 - 3030	Dolomite as above. Shale, light-green, silty; heavy trace. Sandstone as above, trace
3030 - 3060	Dolomite, very light- and light-brown to grayish-brown and yellowish-gray, fine- and medium-grained, finely crystalline. Sandstone, white to light-gray, fine-grained, slightly glauconitic; trace
3060 - 3090	Dolomite as above, sandy and silty as in sample from 2980 to 2990 feet
3090 - 3100	Dolomite, light- and medium-brown and light-yellowish-gray, fine- to coarse-grained, finely crystalline, slightly glauconitic
3100 - 3170	Dolomite as above, predominant color light yellowish-gray. Sandstone, light-gray, fine-grained, glauconitic; trace
3170 - 3180	Dolomite, light-yellowish-gray, fine- and medium-grained, finely crystalline, sandy (fine-grained sand)
3180 - 3190	Dolomite as above. Dolomite, light- and medium-brown; minor
3190 - 3210	Dolomite as in sample from 3170 to 3180 feet
3210 - 3220	Dolomite, light-yellowish-gray and light- and medium-brown, fine- and medium-grained, finely crystalline, very sandy (fine- to coarse-grained sand, degree of rounding increasing with grain size). KERBEL FORMATION at 3210 feet
3220 - 3260	Dolomite as above, grading into sandstone; about 60% of sample consisting of rounded fine- to coarse-grained sand; at 3250 feet predominant size of sand is fine
3260 - 3290	Sandstone, very light-yellowish-gray to light-grayish-brown, fine-grained, slightly dolomitic. Sand, fine- to coarse-grained, rounded; heavy trace
3290 - 3300	Sandstone as above, glauconitic, medium brown in part. CONASAUGA FORMATION at 3290 feet
3300 - 3310	As above. Shale(?), dark-brown; trace
3310 - 3330	Sandstone as above. Shale as above, trace. Siltstone, dark-brown, slightly dolomitic. Dolomite, light-yellowish-gray and medium-brown, fine-grained, very silty, glauconitic
3330 - 3360	Sandstone as above.
3360 - 3380	Sandstone as above. Shale, dark-brown; trace
3380 - 3430	Lithologies as above, heavy trace. Dolomite, light-yellowish-gray to light-brown, fine- and medium-grained, finely crystalline, sandy (fine- and medium-grained sand). Sandstone and shale as above, heavy trace. ROME FORMATION at 3380 feet (GRN)
3430 - 3480	Dolomite as above, light yellowish gray
3480 - 3490	Dolomite as above, in part pink; pink dolomite sandier and grading into slightly dolomitic fine-grained sandstone
3490 - 3500	Dolomite as above, sandy to very sandy; grading into fine- and medium-grained pink and light-yellowish-gray sandstone
3500 - 3550	Dolomite, light-yellowish-gray and very light-brownish-gray, fine- and medium-grained, fine- and medium-grained, finely crystalline, sandy to very sandy (rounded fine- to coarse-grained sand)
3550 - 3570	Dolomite, light-yellowish-gray, light-brownish-gray and light-brown, finely crystalline, sandy (rounded fine- and medium-grained sand); fine and medium grained in part
3570 - 3580	Dolomite as above, sandy to very sandy. Sandstone, pink, fine- and medium-grained; trace
3580 - 3600	As above, dolomite in part medium brown; sand fine to coarse grained (predominantly fine and medium)
3600 - 3630	Dolomite, very light-grayish-brown to dark-brown, pelletal and oolitic, finely crystalline, sandy (fine- and medium-grained sand)
3630 - 3650	Dolomite, light-yellowish-gray, light- and medium-grayish-brown and dark-brown, fine- and medium-grained, very finely crystalline, sandy (fine- to coarse-grained sand); pelletal in part
3650 - 3660	Sandstone, dolomitic. Sand, fine- to coarse-grained, poorly sorted, subangular to rounded. Dolomite as above, very sandy; minor. MT.

SIMON Sandstone at 3650 feet

3660 - 3670 Sandstone and sand as above. Dolomite as above, 50%

3670 - 3690 Sandstone and sand as above. Dolomite as above, minor

3690 - 3700 Dolomite as above. Sandstone and sand as above, 20-30%

3700 - 3740 Sand and sandstone as above, sandstone siliceous in part. Dolomite as above, 20-30%

3740 - 3770 Sand and sandstone as above, sand fine to coarse grained (predominantly coarse), rounded. Dolomite as above, trace

3770 - 3781 Sand as above. Arkose(?), minor amount

TD samples 3781 feet

It is probable that samples from about 3650 feet have been boiler-housed

Cuyahoga County
Mayfield Heights Township
Lot 20

Benedum-Trees Oil Co. #1
Franz & Eichenberg Unit
Permit No. 117
Sample No. 268
Elevation (GL) 1017 feet

Depth (ft)

Samples above 5584 feet not examined

5584 - 5600 Limestone, medium- and dark-brown, lithographic, very finely crystalline. Limestone, very light-brownish-gray, micrograined to fine-grained

5600 - 5623 As above. Shale, dark-brown to dark-gray; trace

5623 - 5646 As above. Siltstone, light-grayish-brown, dolomitic; trace

5646 - 5655 Limestone, medium- and dark-brown, lithographic. Shale, dark-brown; minor

5655 - 5669 Limestone, light- and medium-brown to grayish-brown, dense to fine-grained; conglomeratic in part. Dolomite, dark-brown, very finely crystalline. Shale, light- and medium-greenish-gray; slightly sandy in part. Sand, medium-grained, rounded; trace. Glenwood-Wells Creek at 5660? feet

5669 - 5680 As above, shale very dolomitic in part. Sandstone, light-brownish-gray, silty, dolomitic; trace

5680 - 5690 Shale as above. Sand, medium- to coarse-grained, rounded. Dolomite, very light-brown, very finely and finely crystalline, silty. Sandstone, light-greenish-gray and very light-gray, dolomitic, fine- to coarse-grained (poorly sorted); grains rounded; minor. KNOX DOLOMITE at 5688? feet. Shale cavings throughout Knox Dolomite

5690 - 5692 Dolomite, very light-gray, very light-yellowish-brown to brown, fine-grained, very finely crystalline, sandy (angular very fine-grained sand). Sand, medium-grained, rounded; heavy trace

5692 - 5701 Dolomite as above

5701 - 5715 Dolomite, light-gray, microcrystalline and very finely crystalline, silty. Dolomite, light-yellowish-gray and light-brown, finely crystalline, sandy (angular very fine-grained sand). Sandstone, very light-gray, very fine- and fine-grained, dolomitic; trace

5715 - 5717 Sandstone, light-yellowish-gray, fine- to coarse-grained, very dolomitic; grading into sandy dolomite; degree of rounding increasing with increase of grain size

5717 - 5723 Dolomite, light-yellowish-gray and light-brown, very finely to medium-crystalline, sandy (angular very fine- and fine-grained sand). Sand, fine-grained, subangular to rounded; trace

5723 - 5725 Sandstone, light-brown and light-yellowish-gray, fine-grained, dolomitic; grains angular.

Dolomite, light-brown, finely and medium-crystalline, sandy (fine-grained sand); minor

5725 - 5737 Dolomite, light-brown and yellowish-brown, finely crystalline, sandy (angular fine-grained sand)

5737 - 5740 Sand, fine-grained, angular; minor sandy dolomite

TD samples 5740 feet

Defiance County
Mark Township
Section 11

S. E. Brown #1 Haver
Permit No. 28
Sample No. 1061
Elevation (DF) 702 feet

Depth (ft)

2228 - 2253 Limestone, very light- to dark-brown, lithographic and micrograined; slightly argillaceous in part

2253 - 2276 Dolomite, very light-brown, microcrystalline. KNOX DOLOMITE at 2260 feet (GRN)

2276 - 2295 Dolomite, very light-gray, light-grayish-brown, brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand). Sandstone, light-grayish-green, very fine- and fine-grained, argillaceous; some medium-grained sand; grading into shale; trace

2295 - 2229 Sandstone and shale as above, trace. Dolomite, very light-gray, brownish-gray, finely and medium-crystalline

2329 - 2367 Dolomite, very light-brownish-gray to gray, very finely to medium-crystalline (biohermal rock?)

2367 - 2392 Dolomite, very light-gray, brown, microcrystalline (dolosiltite) to medium-crystalline

2392 - 2406 Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline. Sand, fine- and medium-grained, rounded and frosted; trace

2406 - 2420 Dolomite, very light-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline. Sand as above, trace (may be from Sylvania Sandstone)

2420 - 2445 Dolomite as above, very light and light brown

2445 - 2566 Dolomite as above. Sand as above, trace to heavy trace

2566 - 2575 Dolomite as above, pinkish in part

2575 - 2643 Dolomite, very light- and light-brown and grayish-brown, microcrystalline (dolosiltite) to finely crystalline

2643 - 2654 Dolomite as above, pinkish in part

2654 - 2689 Dolomite as above, pelletal (fine-grained, coated), very slightly glauconitic

2689 - 2701 Dolomite as above, sandy (very fine-grained sand) and silty; hematitic in part

2701 - 2737 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite); silty and sandy as above. Sandstone, very light-gray, very fine-grained; pyritic in part; heavy trace

2737 - 2775 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite) to finely crystalline; coarse grained in part; silty in part

2775 - 2802 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; containing broken-up "ribbon" structures as found in southern Ohio

2802 - 2829 Dolomite, very light- to medium-brown, microcrystalline (dolomicrite) to very finely crystalline

2829 - 2840 Siltstone, light-greenish-gray, very light-brownish- and pinkish- to yellowish-gray, sandy (very fine-grained sand), slightly glauconitic; siliceous in part. Shale, medium-

grayish-green, silty, micaceous; heavy trace. EAU CLAIRE FORMATION at 2828 feet (GRN)

2840 - 2868 Sandstone, very fine-grained. Siltstone as above. Shale, medium-grayish-green and brownish-red, micaceous; heavy trace

2868 - 2890 Sandstone, light-pink (salmon-colored) light-grayish-green, very fine-grained, glauconitic. Siltstone, light-grayish-green, micaceous; grading into shale; heavy trace

2890 - 2903 Dolomite, light- and medium-brown and grayish-brown, microcrystalline (dolosiltite) to medium-crystalline; fine to coarse grained in part; "ribboned"; 70%. Sandstone as above, 30%

2903 - 2912 Dolomite as above, 30%. Sandstone, very light-pinkish-gray, light-greenish-gray, very fine-grained, slightly glauconitic; 70%. Shale, medium-gray, micaceous; trace

2912 - 2935 Sandstone, light-brown, very light-pinkish-gray, light-greenish-gray, very fine-grained, glauconitic; very dolomitic in part; laminations of gray shale

2935 - 2948 Sandstone as above, very fine and fine grained, glauconitic; shaly partings

2948 - 2970 Sandstone as above, 90%. Dolomite, very light- and light-gray, medium-crystalline, glauconitic; 10%

2970 - 2983 Sandstone, pink, light-gray, brown, very fine-grained, siliceous, glauconitic; in part dolomitic

2983 - 3004 Sandstone as above. Shale, dark-green; trace to heavy trace

3004 - 3022 Sandstone, gray, brown, pink, very fine-grained, glauconitic; calcareous in part; dolomitic in part; pyritic in part; 95%. Shale, dark-green; 5%

3022 - 3052 As above, shale in part reddish brown

3052 - 3069 Siltstone and very fine-grained sandstone, pink, light-gray, glauconitic; micaceous in part; 95%. Shale as above, micaceous; 5%

3069 - 3080 Siltstone and very fine-grained sandstone, pink, light- and medium-brownish-gray, slightly glauconitic; very dolomitic in part; 90%. Shale, reddish-brown, dark-green; 10%

3080 - 3108 Dolomite, pink, red, gray, brown, medium-crystalline, slightly glauconitic; in part hematitic; grading into siltstone; 90%. Shale as above, gray in part; 10%

3108 - 3120 As above, dolomite in part grading into very fine-grained sandstone

3120 - 3130 Dolomite, sandstone, siltstone as above. Shale as above, heavy trace

3130 - 3142 Sandstone, pink, pinkish- and greenish-gray, very fine- and fine-grained, glauconitic, slightly hematitic; 80%. Dolomite, white, medium-crystalline, very hematitic, slightly glauconitic; 20%. Shale, medium-green, reddish-brown; trace

3142 - 3168 Sandstone as above. Dolomite as above, heavy trace. Shale as above, trace

3168 - 3191 Rust-colored samples

3191 - 3219 Sandstone, light-gray, greenish-gray, pinkish-gray, very fine- and fine-grained, glauconitic; 90%. Shale, medium-greenish-gray, gray, reddish-brown, micaceous; 10%

3219 - 3270 Sandstone as above, friable. Shale as above, trace

3270 - 3350 Sand, colorless, pink, fine- and medium-grained; glauconite pellets. Sandstone as above, heavy trace. Shale as above, glauconitic; trace to heavy trace

3350 - 3382 Sandstone, very light-pinkish-gray, colorless, light-greenish-gray, predominantly fine-grained, slightly glauconitic, very friable

3382 - 3394 Sandstone as above. Sand, fine- to coarse-grained, subrounded to rounded and frosted. MT. SIMON SANDSTONE at 3390 feet

3394 - 3522 Sand, predominantly pink, fine- to coarse-grained, subangular to rounded and frosted, predominantly medium-grained

3522 - 3531 Sand as above. Shale, hematitic; heavy trace

3531 - 3543 Sand as above

3543 - 3606 Sand as above, fine to very coarse grained

TD 3606 feet

Delaware County
Orange Township
Lot 11, 3rd quarter

Chester Wise #1 Vance
Permit No. 1
Sample No. 402
Elevation (G) 920 feet

Depth (ft)

2625 - 2640 Limestone, very light-grayish-brown to light-brown, lithographic to fine-grained; sucrosic dolomite

2640 Limestone, very light-brownish-gray, lithographic; dolomitized in part. Driller's Gull River

2653 Limestone, very light-brownish-gray, light- and medium-brown, lithographic; some sucrosic dolomite

2656 - 2662 Limestone as above, fossiliferous (ostracods); argillaceous in part; 50%. Shale, light- and medium-greenish-gray, calcareous; 50%

2662 Limestone, very light-brownish-gray, light-brown, lithographic

2668 Limestone as above, 95%. Shale, light- and medium-grayish-green; 5%

2674 Dolomite, very light-grayish-brown, very finely crystalline; fine grained in part. Shale as above, 10%. Limestone, light-grayish-brown, very fine-grained, dolomitic, argillaceous; heavy trace. Sand, fine-grained, rounded and frosted; trace

2679 Dolomite as above, medium brown in part. Shale as above, trace

2685 Shale, medium-grayish-green, light-gray, silty and sandy (medium-grained sand); in small part grading into silty sandstone; 90%. Dolomite as above, 10%

2695 Shale as above, 70%. Dolomite as above, 30%. Sand, fine- and medium-grained, rounded and frosted; trace

2700 As above

2705 Dolomite, light-gray, very light-brown, very finely crystalline, silty; 90%. Shale, medium-grayish-green; 10%. Sand, very fine- to medium-grained, rounded and frosted; heavy trace

2707 Dolomite, very light- and light-gray and brownish-gray, microcrystalline (dolosiltite), sandy; grading into fine-grained sandstone. Shale as above, trace

2712 Sandstone, white, very fine- and fine-grained; some medium- and coarse-grained sand, rounded and frosted; 70%. Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite); 20%. Shale, light-green to grayish-brown, slightly glauconitic; 10%

2727 Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline. KNOX DOLOMITE at 2727 feet

2732 As above

2741 As above

2742 Dolomite as above

2755 Dolomite as above, very light brownish gray, sucrosic in part

2760 As above

2765 As above

2775 As above

2780 - 2795 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline,

rusty
2795 - 2800 Dolomite as above, very light brownish gray
2800 Dolomite, very light-gray, very finely crystalline
2814 As above
2815 - 2820 As above
2820 As above
2822 Dolomite as above. Siltstone and shale cavings
2830 Dolomite as above
2840 Dolomite, very light-brown to pinkish-brown, very finely and finely crystalline, sandy (very fine-grained sand)
2850 Dolomite as above, very light gray, very slightly glauconitic
2853 Dolomite as above, rusty
2858 Dolomite, very light-gray, yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine-grained sand)
2860 Dolomite as above, very light gray
2865 As above
2870 Dolomite, very light-brown, very finely crystalline, sandy (very fine-grained sand)
2875 As above
2880 As above
2890 Dolomite, very light-gray, yellowish-brown to pinkish-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand)
2900 Dolomite, very light-brownish-gray, very finely crystalline, very slightly silty
2905 As above
2910 Dolomite as above, stained red in part
2920 Dolomite, very light-brownish-gray to light-grayish-brown, microcrystalline (dolosiltite). Gypsum, trace
2930 Dolomite as above
2940 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite) to finely sucrosic; some gypsum(?) in matrix
2947 Dolomite, very light-gray to light-grayish-brown, microcrystalline (dolosiltite) to fine-grained
2950 Dolomite as above, trace of gypsum(?)
2960 Dolomite, light-yellowish-gray; powdered sample
2970 Dolomite, very light-gray, very finely and finely crystalline, slightly sandy (very fine- to medium-grained sand)
2980 As above
2990 As above
3000 As above
3010 Dolomite as above, slightly sandy (very fine-grained sand)
3020 As above
3030 As above
3040 As above
3050 As above
3060 Dolomite as above, very light brownish gray
3070 As above
3080 As above, rusty
3090 As above, very light gray to brownish gray
3100 As above
3110 As above
3120 As above
3130 As above
3133 - 3138 Dolomite, medium-brown, microcrystalline (dolosiltite). Dolomite, light-gray, microcrystalline (dolosiltite), slightly sandy (very fine-grained sand)
3145 Dolomite, very light- and light-gray, microcrystalline (dolosiltite), slightly sandy (very fine-grained sand)
3155 Dolomite as above. Shale, medium-gray to greenish-gray, heavy trace; cavings
3160 - 3164 Dolomite, very light-brownish-gray to grayish-brown, microcrystalline (dolomicrite) to very finely crystalline, very sandy (fine- to coarse-grained sand)
3167 Dolomite, very light-gray, yellowish-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand); very fine sample
3170 As in sample from 3160 to 3164 feet
3175 Sandstone, very light-brown, light-grayish-brown, fine- and medium-grained, dolomitic; grading into dolomite. KERBEL FORMATION at 3175 feet
3180 Sandstone as above, very light brownish gray, very friable
3185 As above
3190 Sandstone as above, very fine and fine grained
3195 Sandstone, very light-brownish-gray, fine- and medium-grained, very friable, dolomitic
3200 Sandstone as above, fine grained
3205 Sandstone as above, fine and medium grained
3210 As above
3220 Sandstone as above, fine grained
3230 As above
3240 As above
3245 Sandstone, very light-brown, very fine-grained, slightly dolomitic; 95%. Siltstone, dark-brown, slightly dolomitic; 5%
3250 Sandstone, very light-brownish-gray to light-brown, very fine-grained, slightly glauconitic, slightly dolomitic, silty; grading into siltstone; 90%. Shale, medium-gray to greenish-gray, slightly micaceous; 10%. CONASAUGA FORMATION at 3250 feet
3260 Sandstone, very light-grayish-brown, very fine-grained, slightly glauconitic, slightly dolomitic; 90%. Shale, medium- to dark-gray; 10%
3270 Sandstone, very light-grayish-brown, very fine-grained, very slightly dolomitic, very slightly glauconitic; 80%. Shale as above, 20%
3280 Sandstone as above, 95%. Shale as above, 5%
3290 As above
3300 Sandstone as above, 90%. Shale, medium- and dark-brown, silty; grading into siltstone; 10%
3310 Siltstone, very light-brown, medium- and dark-brown, argillaceous, slightly dolomitic
3320 Siltstone, very light-brown, brownish-gray, slightly glauconitic, slightly dolomitic
3330 Sandstone, very light-brown, very fine-grained, silty, slightly dolomitic, very slightly glauconitic
3340 Sandstone, very light-brownish-gray to pinkish-yellow, very fine- to medium-grained, slightly dolomitic, friable. Eau Claire tongue
3360 Sandstone as above, very slightly glauconitic, very fine to fine grained
3360 - 3375 As above
3380 Sandstone, very light-pinkish-brown, very fine- and fine-grained
3390 As above
3400 Sandstone, very light-gray, fine-grained, dolomitic, very friable; some medium-grained sand; grading into dolomicrite. ROME FORMATION at 3400 feet
3400 - 3415 Sandstone as above (predominantly fine-grained sandstone; few fine-grained oolites in dolomite)
3420 Sandstone, very light-yellowish-brown, fine-grained, dolomitic, very friable
3425 Sandstone as above
3435 Sandstone as above
3440 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite), iron-stained, sandy (fine-grained sand, some medium-grained sand)
3445 Sandstone, very light-gray, fine-grained, dolomitic to very dolomitic, very friable
3450 Sandstone as above, fine to coarse grained

3454 Sandstone as above, fine and medium grained
3455 Sandstone as above
3456 As above, iron stained
3460 Sandstone, very light-gray, predominantly fine-grained, very friable
3465 Sandstone as above, fine and medium grained
3475 Sandstone, very light-yellowish-gray, very fine- and fine-grained, slightly dolomitic
3480 Sandstone as above, iron stained
3485 Sandstone as above, very fine-grained, slightly stained
3490 Sandstone as above
3495 Sandstone, iron-stained, fine-grained, very friable
3500 Sandstone, very light-brownish-gray, very fine-grained, slightly dolomitic, very friable
3505 Sandstone as above
3510 Sandstone, iron-stained, very fine- and fine-grained, very friable
3530 Sandstone, very light-gray, fine-grained, dolomitic, very friable
3535 Dolomite, very light-gray, microcrystalline (dolomicrite), very sandy (fine-grained sand)
3540 Dolomite as above
3550 Dolomite as above
3560 Dolomite as above
3565 Dolomite as above, fine- and medium-grained sand in dolomite
3570 Dolomite as above
3575 Sandstone, very light-gray, iron-stained, fine-grained, dolomitic
3580 Sandstone, very light-gray, fine- and medium-grained, very friable
3585 Sandstone as above, iron stained
3590 Sandstone, iron-stained, very fine- and fine-grained, very friable
3600 Dolomite, light- to dark-brown, microcrystalline (dolomicrite), sandy to very sandy (fine- and medium-grained sand), pelletal
3605 Dolomite as above, very sandy, grading into sandstone
3610 As above
3615 Dolomite as in 3600-foot sample, medium grayish brown
3625 Dolomite as above
3630 Dolomite as above, light-brown and grayish-brown, sandy (fine-grained sand)
3635 Sandstone, fine-grained, dolomitic, very friable
3640 Sandstone as above, grading into dolomite, medium-brown, microcrystalline (dolomicrite), pelletal
3645 Sandstone as in 3635-foot sample
3650 Sandstone as above
3655 Sandstone, very light-gray, very fine- and fine-grained, dolomitic, very friable
3660 Sandstone as above, grading into dolomite
3665 Dolomite, medium-brown, microcrystalline (dolomicrite), pelletal, sandy (fine-grained sand)
3670 Dolomite as above
3675 Dolomite as above, grading into fine-grained sandstone
3680 Dolomite as above, grading into fine- and medium-grained sandstone
3685 Sandstone, fine- and medium-grained, very friable. Dolomite as above, trace
3690 Sandstone as above. Dolomite as above, 10%
3695 Dolomite as above, 50%. Sandstone as above, fine grained, 50%
3700 Sandstone, very fine- and fine-grained, very friable; 70%. Dolomite as above, 30%
3705 Dolomite, medium-brown, microcrystalline (dolomicrite), very sandy (very fine- and fine-grained sand), oolitic
3710 Sandstone, light-pinkish-yellow, very light-gray, fine- and medium-grained, very friable; 90%. Dolomite as above, 10%. MT. SIMON SANDSTONE at 3710 feet
3715 Sandstone as above. Dolomite as above, heavy trace
3720 As above
3725 Sand, fine- and medium-grained, angular and subangular (see remarks at end of sample descriptions)
3735 Sand as above, medium and coarse grained
3740 Sand, iron-stained, fine- and medium-grained, angular and subangular
3745 Sand, medium- and coarse-grained, predominantly angular
3750 Sand as above, fine and medium grained
3755 Sand, fine- and medium-grained, predominantly angular and subangular
3765 Sand as above
3770 Sand as above, medium grained
3775 Sand, fine- and medium-grained, angular (predominantly) to rounded and frosted; many secondary quartz growths
3780 Sand as above
3785 Sand as above
3790 Sand as above
3795 Sand as above
3800 Sand, fine- to coarse-grained, angular to rounded and frosted; 90%. Shale, dark-brownish-red, dark-greenish-gray, silty; 10%
3805 Sand, medium-grained, angular to rounded and frosted; pink in part
3810 Sand as above
3815 Sand as above, fine and medium grained
3820 Sand as above, hematitic red biotite grains
3825 Sand, medium-grained, angular to rounded and frosted
3830 Sand as above
3835 Sand as above, fine to coarse grained
3840 Sand as above. Shale, red, hematitic
3845 Granite gneiss. See Stout and Lamey, 1940. PRECAMBRIAN at 3845 feet

TD 4291 feet

Remarks:

1. Brown dolomite in 2674-foot sample and lower is dolomitized Black River.
2. All samples are fine in size, ground down in drilling. This may have resulted in decreasing the apparent grain size of the sands, which are in large part broken.

Erie County
Florence Township
Lot 98

Sun Oil Co. #1 Krysik-Wakefield *et al.* unit
Permit No. 11
Sample No. 1928
Elevation (KB) 828 feet

Depth (ft)

3800 - 3825 Limestone, light- and medium-brown, fine-grained, sublithographic and dense; oolitic and pelletal in part. Shale, medium-gray to greenish-gray; heavy trace
3825 - 3835 Limestone as above, very light gray and light and medium brown, fossiliferous (fossils including ostracods). Shale, light-grayish-green;
3835 - 3840 containing black platy material; trace
3835 - 3840 Shale, light- and medium-grayish-green and medium-brown, pyritic, micaceous; 50%. Limestone, light- and medium-brown, lithographic, fossiliferous; oolitic in part; pelletal in part
3840 - 3850 Shale as above. Sandstone, very fine-grained, dolomitic, slightly glauconitic; trace. Soft white micaceous material that swells in water (caved bentonite); trace
3850 - 3860 Shale as above, sandy to very sandy (very fine- and fine-grained sand). Sandstone, light-gray and greenish-gray, very fine- and fine-

	grained, slightly glauconitic, slightly dolomitic. Limestone, lithographic; fracture filled with sandy dolomite; one piece of limestone with cavity filled with fine- and medium-grained sand; trace
3860 - 3866	Shale as above. Sandstone, fine-grained, dolomitic in part, well-sorted (some rounded medium and coarse grains), very slightly glauconitic and pyritic; black platy material as in shale (bone material?). KNOX DOLOMITE at 3865 feet (GRN)
3866 - 3937	Core
3937 - 3950	Sandstone, light-brownish-gray, very fine- and fine-grained, dolomitic, slightly glauconitic
3950 - 3970	Dolomite, light-brown, dense to medium-grained, very finely crystalline; sandy in part. Sandstone as above
3970 - 3980	Dolomite, light-brown to grayish-brown, very finely crystalline, sandy to very sandy (subangular and subrounded fine- and medium-grained sand), slightly pyritic, slightly glauconitic. KERBEL FORMATION at 3970 feet
3980 - 4020	Sandstone, light-grayish-brown and brown and very light-gray, fine- and medium-grained, dolomitic; grains generally rounded. Dolomite as above, minor
4020 - 4030	As above. Shale, medium-gray; trace
4030 - 4040	Sandstone, light-yellowish-gray, fine-grained, dolomitic. Sandstone, dark-brown, very fine-grained, silty, glauconitic to very glauconitic. CONASAUGA FORMATION at 4030 feet
4040 - 4050	Sandstone as above, silty. Sandstone, light-yellowish-gray and light-gray, fine-grained, slightly glauconitic, slightly micaceous, slightly dolomitic. Shale as above, trace
4050 - 4060	Sandstone, light-gray and brownish-gray, fine-grained, slightly dolomitic, slightly glauconitic and micaceous
4060 - 4080	As above. Sandstone, very glauconitic in part, in part dark brown and very silty. Shale as above, trace
4080 - 4090	Siltstone, light-green, argillaceous, slightly sandy, glauconitic; trace. Dolomite, light-gray and grayish-brown, very finely crystalline, silty, slightly sandy. Sandstone as above, minor. Shale as above, trace. ROME FORMATION at 4086 feet (GRN)
4090 - 4140	Dolomite, light-yellowish-gray and brownish-gray, microcrystalline and very finely crystalline, oolitic and pelletal to 4100 feet; sandy to very sandy in part (rounded fine- and medium-grained sand); sand content decreasing downward
4140 - 4180	Dolomite, light-yellowish-gray to brownish-gray, microcrystalline, slightly sandy (subangular and subrounded very fine- and fine-grained sand)
4180 - 4200	Dolomite as above, oolitic and pelletal in part, sandy (fine- and medium-grained sand); finely crystalline in part. Sandstone, light-greenish-gray, fine-grained, dolomitic, slightly glauconitic, slightly argillaceous; trace
4200 - 4240	Dolomite as above
4240 - 4250	Dolomite as above. Sandstone, dark-brown, fine-grained, dolomitic; grading into pelletal and oolitic dolomite
4250 - 4260	Dolomite, light-yellowish-gray and medium- and dark-brown, very finely and finely crystalline, sandy; oolitic in part; grading into fine-grained sandstone; minor
4260 - 4290	Dolomite as above, light yellowish gray and light brown, some medium-grained sand in dolomite. Sandstone as above, minor
4290 - 4300	As above. Sandstone, pink, light-brown, fine-grained; trace
4300 - 4310	Dolomite, light-yellowish-gray, light- to dark-brown, very finely crystalline, oolitic, pelletal, very sandy; grading into subangular to subrounded medium-grained sandstone
4310 - 4330	As above, few coarse sand grains in dolomite and sandstone
4330 - 4340	Dolomite as above, pelletal and oolitic, sandy to very sandy. Sandstone, pink, light-yellowish-gray and brownish-gray, fine- to coarse-grained; grains generally rounded, some pressure cemented, others have crystal faces; 20%
4340 - 4350	Dolomite as above. Sandstone as above, heavy trace
4350 - 4360	As in sample from 4330 to 4340 feet
4360 - 4390	Sandstone as above. Dolomite as above, trace. MT. SIMON SANDSTONE at 4360 feet
4390 - 4440	As above. Sandstone, fossiliferous to 4420 feet; trace
4440 - 4450	Sandstone as above. Dense pink rock with embedded sand grains and biotite, trace
4450 - 4463	Biotite-plagioclase gneiss? Sandstone, trace. PRECAMBRIAN at 4455 feet?
	TD samples 4463 feet

Fayette County
Concord Township
VMSL 1002

Kewanee Oil Co. #1 Wilson
Permit No. 2
Sample No. 751
Elevation (CM) 1017 feet

Depth (ft)	
	No samples 1698-1725 feet
1725 - 1750	Limestone, medium-brown, lithographic, fossiliferous (ostracods); bird's-eye structures and fractures; patches of microsucrosic light-brown dolomite
1750 - 1760	Siltstone, very light-brown, dolomitic; grading into microsucrosic dolomite
1760 - 1765	As above. Dolomite, light-brown, microcrystalline to finely crystalline; heavy trace. Chert, very light-gray; trace. KNOX DOLOMITE at 1764 feet?
1765 - 1770	Siltstone and dolomite as in sample from 1750 to 1760 feet. Dolomite, light-brown, very finely sucrosic
1770 - 1780	Dolomite, light-brown, very finely and finely sucrosic
1780 - 1805	Dolomite as above, in part very light brown. Chert, white; trace
1805 - 1836	No samples (cored)
1836 - 1840	Sandstone, very light-brown and light- and medium-grayish-brown, fine-grained, dolomitic; shaly dark-gray and medium-green interbeds; contact marked with pyrite; sandstone in part silicified into chert. Dolomite, very light-brown, microcrystalline (dolosiltite). Chert, very light-gray; trace
1840 - 1845	Dolomite, light-brown and grayish-brown, microcrystalline (dolosiltite) and microsucrosic, silty to very silty. Siltstone, light-gray and greenish-gray; minor
1845 - 1850	Chert and silicified dolomite, very light- and light-brown; in large part oolitic (medium-grained oolites, grain-supported). Chert, white and very light-gray; pelletal (medium-grained, grain-supported) in part. Sandstone, light-brownish-gray to greenish-gray, fine- and medium-grained, silty to very silty. Siltstone, light-brownish-gray and greenish-gray, dolomitic
1850 - 1855	Dolomite, very light- and light-brown, light-grayish-brown, microcrystalline (dolomicrite and dolosiltite); siliceous in part. Chert, white; laminated in part; heavy trace. Sandstone, light-brownish-gray and white, fine-grained; siliceous in part; trace

1855 - 1860 Chert, very light-gray and brown; pelletal and oolitic as in sample from 1845 to 1850 feet in small part; in part replacement of vuggy dolomite. Dolomite, light- to medium-grayish-brown, very finely sucrosic, silty; patches of medium-green clay

1860 - 1870 Dolomite, medium- to dark-brown, very finely crystalline to very finely sucrosic; in large part pelletal (medium-grained pellets, grain- and mud-supported)

1870 - 1875 Dolomite, light- to medium-brownish-gray and pinkish-brown, microcrystalline (dolosiltite) and very finely crystalline; very finely to coarsely sucrosic in part; white chert in matrix

1875 - 1880 Dolomite, light-brown and medium-grayish-brown, microcrystalline (dolosiltite) to coarsely crystalline, siliceous; in part replaced by chert; oolitic in part (medium-grained, grain-supported)

1880 - 1890 Dolomite, light-brownish-gray, very finely to coarsely crystalline; sucrosic in part; sandy to very sandy in part (fine-grained sand)

1890 - 1900 Dolomite, light-brown and light- and medium-grayish-brown and brownish-gray, microcrystalline (dolosiltite) and very finely crystalline, very glauconitic. Dolomite, light-brownish-gray, very finely sucrosic, very sandy (very fine-grained sand) and silty, slightly glauconitic; minor

1900 - 1905 Dolomite, light- and medium-brown to grayish-brown, medium-crystalline

1905 - 1910 Dolomite, medium-brownish-gray, microcrystalline (dolomicrite), slightly glauconitic; sandy (very fine- and fine-grained sand) in part. Sandstone, very light-brown and light-gray, very fine- and fine-grained, dolomitic, slightly glauconitic; minor

1910 - 1915 Dolomite as above. Dolomite, light-brown, microcrystalline (dolosiltite); probably pelletal in part (medium-grained pellets, mud-supported)

1915 - 1920 Dolomite as above, light brown; pinpoint porosity; very finely sucrosic in part

1920 - 1925 Dolomite, light-brown and brownish-gray, microcrystalline (dolomicrite and dolosiltite); one chip with dark-gray and medium-green shaly laminations

1925 - 1935 Sandstone, very light-brown and light-gray, very fine-grained, very dolomitic

1935 - 1940 Dolomite, medium-grayish-brown and brown, very finely crystalline and sucrosic; patches of dark-green clay (glauconite?). Chert, very light-gray; pelletal and oolitic (medium-grained, grain-supported) in part

1940 - 1945 Dolomite, very light-brown, microcrystalline (dolosiltite) to finely crystalline; minor pinpoint porosity

1945 - 1950 Dolomite as above, medium crystalline in part. Sandstone, light-brown, very fine- and fine-grained, dolomitic; patches of dark-green clay (glauconite?); trace

1950 - 1965 Dolomite as above, light gray to brownish gray in part

1965 - 1970 Dolomire as above, very finely sucrosic in part. Dolomite, light-brownish-gray, microcrystalline (dolosiltite), glauconitic, sandy to very sandy (very fine- to coarse-grained sand); heavy trace. Chert, very light-gray; pelletal and oolitic (medium-grained, grain-supported) in part; trace

1970 - 1975 Dolomite, light- and medium-brown and brownish-gray, microcrystalline (dolomicrite). Chert as above, trace

1975 - 1985 Dolomite, light-brown, microcrystalline (dolomicrite); sucrosic (very fine to medium) in part; some vuggy and pinpoint porosity

1985 - 1990 Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), pelletal (medium- and coarse-grained, grain-supported); fair pinpoint porosity. Sandstone, very light-brown, fine- and medium-grained; very dolomitic in part; minor

1990 - 1995 Dolomite as above. Dolomite, very light-brown, microsucrosic and very finely sucrosic, very sandy (very fine-grained sand)

1995 - 2000 Dolomite, very light- to light-brown and grayish-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand); very finely sucrosic in part; argillaceous in part

2000 - 2005 Dolomite as above. Dolomite, light-brown, microcrystalline (dolomicrite); porosity due to dissolution of medium-grained pellets

2005 - 2010 Dolomite, medium- and dark-brown, microcrystalline and very finely crystalline, pelletal (fine- and medium-grained, grain and mud-supported); minor pinpoint porosity

2010 - 2020 Dolomite as above, light brown in part

2020 - 2025 Dolomite, very light-brown and light-gray, microcrystalline (dolosiltite); very finely sucrosic in part

2025 - 2030 Dolomite, very light- and light-brown, microcrystalline (dolosiltite); some vuggy porosity. Chert, white and very light-gray, oolitic (dark-brown, medium- and coarse-grained, grain-supported)

2030 - 2035 Dolomite as in sample from 2005 to 2010 feet

2035 - 2040 Dolomite as above. Dolomite, very light-brown, microcrystalline (dolosiltite). Sandstone, very light-gray, fine- to coarse-grained, dolomitic, slightly argillaceous, slightly glauconitic; minor

2040 - 2045 Dolomite as above. Dolomite, medium-gray, microcrystalline (dolosiltite)

2045 - 2050 Dolomite, very light-brown to light-grayish-brown, microcrystalline (dolosiltite); dark-gray shaly laminations in part

2050 - 2055 Dolomite as above, nonlaminated

2055 - 2060 Dolomite as above and pelletal dolomite as in sample from 2005 to 2010 feet

2060 - 2065 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), pelletal (medium-grained, grain-supported). Chert, white, pelletal; trace (one piece of chert with fragment of pelletal dolomite as in remainder of sample, very sharp contact, hairline fracture cutting both chert and enclosed dolomite)

2065 - 2070 Dolomite as above, only slightly pelletal. Chert, very light-gray, pelletal and oolitic (very fine-grained, grain-supported); trace

2070 - 2080 Dolomite, very light-brown, microcrystalline (dolosiltite). Dolomite, medium-brown, microcrystalline, microsucrosic to very finely sucrosic; some pinpoint porosity

2080 - 2085 Dolomite, very light- and light-brown, microcrystalline (dolosiltite). Siltstone, very light-gray, slightly glauconitic; heavy trace

2085 - 2110 Dolomite as above, poor vuggy porosity

2110 - 2120 Dolomite, light- and medium-brown, microcrystalline (dolosiltite); fair vuggy porosity

2120 - 2130 Dolomite as above, poor pinpoint porosity

2130 - 2135 Dolomite as above, very finely sucrosic in part

2135 - 2150 Dolomite, medium-brown, microcrystalline (dolosiltite) and very finely crystalline; very finely sucrosic in part

2150 - 2170 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline; very finely sucrosic in part; poor pinpoint porosity

2170 - 2195 Dolomite as above, poor to fair pinpoint and vuggy porosity
2195 - 2205 Dolomite, very light-brown, microcrystalline (dolosiltite). Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline
2205 - 2210 As above, light- and medium-brown dolomite with poor to fair vuggy and pinpoint porosity
2210 - 2220 Dolomite as above, porous
2210 - 2225 As in sample from 2195 to 2205 feet
2225 - 2230 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline. Dolomite, very light-brown, microcrystalline (dolosiltite); trace
2230 - 2235 Dolomite as above, very light brownish gray, microcrystalline (dolosiltite)
2235 - 2240 Dolomite as above, light brown in part
2240 - 2245 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite). Sandstone, very light-brownish-gray, very fine-grained, slightly glauconitic, dolomitic; trace
2245 - 2255 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline; poor pinpoint porosity
2255 - 2260 Dolomite, very light- and light-brown, microcrystalline (dolosiltite). Chert, white; trace
2260 - 2265 Dolomite as above, silty and very slightly glauconitic in part
2265 - 2270 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline; very finely sucrosic in part; sandy (very finely sucrosic in part; sandy (very fine-grained sand) in part. Sandstone, light-gray, very fine-grained, slightly glauconitic; trace
2270 - 2275 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), slightly glauconitic; in part very sandy (very fine-grained sand). Shale, light-green, sandy (very fine- and fine-grained sand), dolomitic; trace
2275 - 2285 Dolomite as above, sandy. Sandstone, light-gray, very fine-grained; trace
2285 - 2290 Dolomite, very light- and light-brown, yellowish-brown, microcrystalline; trace of pinpoint porosity
2290 - 2295 Dolomite as above. Siltstone, light-brownish-gray, pyritic, very slightly glauconitic, dolomitic; minor
2295 - 2310 Siltstone as above. Siltstone, light-gray. Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite), silty; minor
2310 - 2325 Dolomite, medium-brown, microcrystalline (dolosiltite) and very finely crystalline
2325 - 2330 Dolomite as above. Dolomite, medium-brown, slightly grayish, microcrystalline (dolomicrite and dolosiltite); angular fragments (up to 3 mm) of microcrystalline (dolomicrite) very light-yellowish-brown dolomite; heavy trace (microbreccia, supratidal dolomite?)
2330 - 2335 Dolomite, very light-yellowish-brown to medium-brown, microcrystalline (dolosiltite) to finely crystalline; finely and medium sucrosic in part; several pieces of finely crystalline medium-brown dolomite showing sharp contact with microcrystalline (dolomicrite) light- to medium-gray dolomite
2335 - 2340 Dolomite, very light-brownish-gray, finely and medium-crystalline; sucrosic in part
2340 - 2375 Dolomite, very light-yellowish-brown and light-brown, microcrystalline (dolosiltite) to finely crystalline
2375 - 2380 Dolomite as above. Siltstone, light-gray, dolomitic, slightly glauconitic; minor
2380 - 2385 Dolomite, very light-yellowish-brown to light-yellowish-gray, finely crystalline; in large part finely and medium sucrosic with fair pinpoint porosity
2385 - 2390 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline
2390 - 2395 Dolomite as above, very light yellowish brown
2395 - 2405 Dolomite, light- to medium-brown, microcrystalline (dolosiltite)
2405 - 2430 Dolomite, very light-brown, very fine- to medium-crystalline; in part finely and medium sucrosic with vuggy porosity
2430 - 2435 Dolomite as above, nonsucrosic, nonvuggy
2435 - 2445 Dolomite, very light-brown, microcrystalline (dolosiltite). Dolomite, light- and medium-brown, medium-crystalline; minor
2445 - 2450 Dolomite, medium-brown, medium-crystalline; medium sucrosic in part. Dolomite, very light-brown, microcrystalline (dolosiltite); minor
2450 - 2455 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline
2455 - 2460 Dolomite, light- and medium-brown, finely and medium-crystalline; poor pinpoint porosity
2460 - 2465 Dolomite as above, finely to coarsely sucrosic in part. Dolomite, very light-brownish-gray, microcrystalline (dolosiltite); minor
2465 - 2475 Dolomite, very light-gray, light- and medium-brown, finely and medium-crystalline; sucrosic in part
2475 - 2480 Dolomite, light-brown, microcrystalline (dolosiltite)
2480 - 2490 Dolomite, very light-grayish-brown, microcrystalline (dolosiltite)
2490 - 2500 Dolomite, light- and medium-brown, very finely to medium-crystalline; finely sucrosic in part
2500 - 2505 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline
2505 - 2510 Dolomite, very light- and light-brown and grayish-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone, light-gray, slightly glauconitic; heavy trace
2510 - 2515 Dolomite, medium-brown, microcrystalline (dolosiltite) to finely crystalline, slightly pyritic; finely to coarsely sucrosic in part
2515 - 2525 Dolomite, very light-greenish-gray, light-brown, microcrystalline (dolosiltite); silty in part (very fine-grained sand). Dolomite as above
2525 - 2530 Dolomite, medium-brown, finely crystalline
2530 - 2540 Dolomite, very light-yellowish-brown, very finely and finely crystalline
2540 - 2545 Dolomite, very light-yellowish-brown and light-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand)
2545 - 2550 Dolomite, light- and medium-brown, very finely and finely crystalline; slightly sandy as above
2550 - 2555 Dolomite as above, sucrosic in part. Dolomite, medium-brown, microcrystalline (dolosiltite); minor
2555 - 2560 Dolomite, light- and medium-brown, very finely and finely crystalline. Dolomite, light-yellowish-gray, microcrystalline (dolosiltite); few fine-grained pellets and sand-centered oolites
2560 - 2570 Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolosiltite), silty, sandy (very fine-grained sand)
2570 - 2580 Dolomite, light-grayish-brown and light-brown, microcrystalline (dolosiltite) and very finely crystalline; very finely and finely sucrosic in part
2580 - 2585 Dolomite, light-brown, microcrystalline (dolo-

siltite), silty; few very fine-grained pellets(?)

2585 - 2595 Dolomite as above, oolitic in part (medium-grained, grain-supported), slightly sandy (very fine-grained sand)

2595 - 2600 Dolomite, very light- and light-yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand)

2600 - 2605 Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite), silty, sandy (very fine-grained sand). Sandstone, light-brown, very fine-grained, very dolomitic; trace

2605 - 2610 Sandstone as above, trace. Dolomite, medium- to dark-brown, microcrystalline (dolosiltite); few fine- to coarse-grained pellets and oolites. Dolomite, very light-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine-grained sand)

2610 - 2615 Dolomite, light- and medium-brown, microcrystalline (dolosiltite); few pellets and oolites. Dolomite, light-gray, microcrystalline (dolosiltite), silty, brecciated

2615 - 2620 Sandstone, light- to dark-brown, very fine- and fine-grained, dolomitic to very dolomitic. Dolomite as above, light gray, sandy (very fine- and fine-grained). KERBEL FORMATION at 2615 feet

2620 - 2625 Sandstone, light-brown, very fine- and fine-grained; grading into dolomite

2625 - 2630 Sandstone as above. Dolomite, dark-brown, very finely crystalline, sandy (very fine- and fine-grained sand)

2630 - 2640 Sandstone, very light-brown to grayish-brown, very fine- and fine-grained; grading into dolomite

2640 - 2655 Sandstone, very light-brown to grayish-brown, very fine- and fine-grained (predominantly fine), dolomitic

2655 - 2660 Sandstone as above, with dark-brown shaly laminations. CONASAUGA FORMATION at 2655 feet

2660 - 2665 Sandstone, light-grayish-brown, very fine- and fine-grained (predominantly fine). Dolomite, dark-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand); in part pelletal (fine-grained, grain-supported)

2665 - 2670 Dolomite, light- to dark-brown, microcrystalline (dolosiltite) and very finely crystalline; fair pinpoint and vuggy porosity. Siltstone, light-brown, dolomitic

2670 - 2680 Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), silty, slightly glauconitic

2680 - 2690 Siltstone, light-grayish-brown and light-brown, very dolomitic

2690 - 2695 Dolomite, medium-brown, microcrystalline (dolosiltite); silty in part

2695 - 2705 Dolomite as above. Dolomite, light-grayish-brown; laminated in part; slightly glauconitic in part

2705 - 2710 Siltstone, light-brownish-gray to grayish-brown, dolomitic

2710 - 2715 Shale, dark-gray, silty, dolomitic. Siltstone as above, brachiopod valve, trace

2715 - 2725 Shale, dark-brownish-gray to gray. Limestone, medium- to dark-brown to black

2725 - 2730 Limestone, medium-brown, lithographic, fossilferous (needlelike spines?). Siltstone, medium-brown, dolomitic, argillaceous, fossiliferous (brachiopod)

2730 - 2740 Limestone as above, very light brown and fossiliferous in part. Shale, medium-brown to dark-gray. Siltstone as above

2740 - 2745 Limestone, light- to dark-brown, lithographic and micrograined, pelletal and oolitic (fine- and medium-grained, grain-supported); fossiliferous as above. Shale, light- to medium-gray, fossiliferous

2745 - 2750 Limestone, light- and medium-brown, lithographic. Sandstone, very light-brownish-gray, very fine-grained, glauconitic, slightly dolomitic. Shale, dark-brownish-gray

2750 - 2755 Limestone as above. Siltstone, medium-brown. Shale as above

2755 - 2760 Limestone, light-gray and light-brown, lithographic, fossiliferous, glauconitic; light-gray mottling. Limestone, dark-gray, very glauconitic; composed of numerous spines. Siltstone, light-greenish-gray, dolomitic, argillaceous; minor

2760 - 2765 Limestone as above. Shale, dark-green and red

2765 - 2770 Limestone as above, trace. Shale as above

2770 - 2775 Shale, medium-green, silty. Siltstone, dark-greenish-gray, micaceous

2775 - 2790 Shale, dark-grayish-green; in part silty and micaceous. Siltstone and very fine-grained sandstone, very light-brownish-gray to light-brown, micaceous; glauconitic in part

2790 - 2810 Siltstone, very light-brownish-gray, micaceous, slightly glauconitic (very fine specks). Shale, dark-grayish-green and reddish-brown, micaceous, silty to very silty; minor to trace

2810 - 2820 Siltstone as above. Shale, dark-greenish-gray. Shale, light-greenish-gray, very silty

2820 - 2825 Shale, dark-greenish-gray. Siltstone, dark-brown, sandy (very fine-grained sand), very dolomitic, glauconitic; heavy trace

2825 - 2840 Shale, dark-greenish-gray and reddish-brown. Siltstone as above, minor

2840 - 2860 Shale, dark-gray and greenish-gray. Siltstone as above. Limestone, medium-brown, lithographic to biocalcarenitic, silty; minor to trace

2860 - 2865 Shale, medium-gray to dark-greenish-gray. Limestone, light- and medium-brown, lithographic and calcarenitic, silty to very silty, fossiliferous (brachiopod)

2865 - 2875 Shale as above. Limestone as above. Siltstone, light- and medium-brown, micaceous, dolomitic

2875 - 2890 Shale and siltstone as above. Dolomite, light-gray, brown, and brownish-gray, silty, glauconitic; finely crystalline to medium- and coarse-grained dolarenite

2890 - 2900 Siltstone and dolomite as above

2900 - 2905 Sandstone, pink, very fine-grained, glauconitic. Siltstone, medium-gray to greenish-gray, argillaceous, glauconitic; minor. Shale, medium-gray; in part as laminations in sandstone

2905 - 2920 Sandstone as above. Sandstone, light-pinkish-gray and greenish-gray, dolomitic, very glauconitic, fossiliferous (brachiopod). Shale as above, trace

2920 - 2930 Sandstone as above, with laminations of dark-greenish-gray and reddish-brown shale

2930 - 2945 Sandstone, pink, light-gray, light-brown, very fine-grained, dolomitic, finely crystalline; glauconitic in part; in small paft grading into dolomite

2945 - 2965 Sandstone as above, predominantly light brown, very dolomitic in part, in part grading into dolomite. Shale, medium-greenish-gray, silty, micaceous; trace

2965 - 2970 Sandstone as above. Shale as above, fossiliferous (brachiopod); minor

2970 - 2975 Sandstone as above. Shale, dark-greenish-gray; trace. Dolomite, light-gray, finely crystalline, very glauconitic; trace

2975 - 2995 Sandstone as above, glauconitic. Shale as above

2995 - 3000 Sandstone, light-brown, gray, and grayish-brown, very fine-grained, glauconitic. Shale as above, trace

3000 - 3025 Sandstone as above. Shale, dark-greenish-gray. Dolomite, light-brown and gray, coarse-grained, glauconitic; trace

3025 - 3030 Shale, dark-greenish-gray, micaceous, silty. Sandstone, very light-brown to medium-brown, very fine-grained, micaceous, slightly glauconitic. Dolomite, light-gray and brownish-gray, microcrystalline (dolosiltite), silty; heavy trace

3030 - 3035 Sandstone, light-pinkish-yellow, fine-grained, dolomitic; few medium and coarse grains. Shale, light-greenish-gray, micaceous; minor. ROME FORMATION at 3028 feet (GRN)

3035 - 3040 Sandstone, light-pinkish-yellow to light-brown, fine-grained, dolomitic; few medium grains

3040 - 3080 No samples (cored)

3080 - 3095 Sandstone, light- and medium-brown, very fine- and fine-grained, dolomitic; few fine-grained dark-brown oolites; grading in small part into very fine- and fine-grained(?) dolomite

3095 - 3100 As above, few chips of sandstone and dolomite with irregularly shaped interclasts of very light-gray dolomicrite. Shale, dark-brownish-gray; trace

3100 - 3105 As above, some coarse-grained sand in dolomicrite-bearing sandstone or dolomite

3105 - 3110 Sandstone, light-pinkish-yellow, light-brownish-gray and light- and medium-brown, very fine- and fine-grained; some medium- and coarse-grained sand; very dolomitic in part. Dolomite, very light-grayish-brown, microcrystalline (dolomicrite), sandy, oolitic (dark-brown, fine- and medium-grained, grain-supported); heavy trace

3110 - 3115 Sandstone as above, in part grading into medium-brown dolomite

3115 - 3120 Sandstone as above. Dolomite, light-gray and brown, microcrystalline (dolomicrite), conglomeratic(?); showing contact with sandstone

3120 - 3130 Sandstone as in sample from 3110 to 3120 feet. Dolomite, light-brown, microcrystalline (dolosiltite), sandy, oolitic (light-brown, fine-grained, sand-centered, grain-supported); trace

3130 - 3140 Sandstone, light-brownish-gray, poorly sorted, fine- to coarse-grained (predominantly fine), dolomitic; few pink and purple grains (garnet?)

3140 - 3155 Sandstone, light-brownish-gray, fine- and medium-grained, dolomitic

3155 - 3160 Sandstone, light-pinkish-gray, light-brown, and grayish-brown, fine- and medium-grained; few coarse grains

3160 - 3180 Sandstone, light-pinkish-gray, fine- and medium grained (predominantly fine)

3180 - 3190 Sandstone, light-pinkish-gray, light- and medium-brownish-gray, very fine- and fine-grained; dolomitic in part. Siltstone, light- and medium-grayish-brown and dark-brown, dolomitic, sandy (very fine-grained sand), argillaceous, slightly glauconitic; minor

3190 - 3195 As above. Dolomite, medium-brown, medium-crystalline (dolosiltite), oolitic (fine- and medium-grained, grain-supported); trace

3195 - 3200 Dolomite, medium-grayish-brown and brownish-gray, medium- and dark-gray, microcrystalline (dolosiltite), oolitic and pelletal (mud- and grain-supported), very silty, sandy (very fine- and fine-grained sand), brecciated, laminated; porosity due to dissolved pellets and/or oolites. Sandstone, light-grayish-brown to pinkish-gray, fine-grained

3200 - 3205 Dolomite, light- to medium-brown, slightly grayish, fine- to coarse-grained, silty. Dolomite, light- to medium-brown, sandy, oolitic (medium-grained, grain-supported); trace

3205 - 3210 Dolomite, light-brown, microcrystalline (dolosiltite), sandy. Sandstone, light-brown, fine- and medium-grained, some medium-grained oolites; dolosiltite occurring as breccia in sandstone

3210 - 3215 Dolomite, medium-gray, fine-grained, sandy (very fine- and fine-grained sand). Sandstone, pinkish-gray and light-gray, fine- to coarse-grained, poorly sorted; dark-gray shale laminations

3215 - 3220 Dolomite, light- to dark-brown, light- to dark-gray, microcrystalline, silty, argillaceous, sandy (very fine-grained sand); fine-grained in part; oolitic and pelletal in part. Sandstone, pinkish-gray, very fine-grained; heavy trace

3220 - 3235 Dolomite as above, sandy (very fine- to coarse-grained sand); minor. Sandstone, pinkish-gray, very light-grayish-brown, fine- to coarse-grained. MT. SIMON SANDSTONE at 3220 feet

3235 - 3240 Sandstone, light-pinkish-brown, pinkish-gray, and light-gray, predominantly very fine- and fine-grained. Dolomite, light- and medium-gray and light-brown, microcrystalline (dolosiltite), oolitic, argillaceous, very sandy (very fine- and fine-grained sand); minor

3240 - 3245 Sandstone, pinkish-gray and light-greenish-gray, predominantly fine- and medium-grained, poorly sorted

3245 - 3250 Sandstone, fine- to coarse-grained

3250 - 3260 Sandstone as above, fine and medium grained

3260 - 3265 Sandstone, very light-pinkish-brown, very fine- and fine-grained

3265 - 3270 Sandstone as above, few medium-sized grains

3270 - 3275 Sandstone as above, slightly glauconitic; dark-gray silty shale laminations

3275 - 3280 Sandstone, light- and medium-gray, very fine- and fine-grained, silty, very glauconitic; shale laminations as above

3280 - 3290 Sandstone, light-gray and very light-brown, fine- to coarse-grained, poorly sorted, very glauconitic; shale laminations as above

3290 - 3310 Sandstone, light-pinkish-gray, light-greenish-gray, predominantly fine- and medium-grained

3310 - 3315 Sandstone, light-pinkish-brown, very fine- and fine-grained

3315 - 3320 Sandstone, light-pinkish-brown and very light-grayish-brown, fine- and medium-grained

3320 - 3330 Sandstone, very light-grayish-brown, fine- and medium-grained; black spiny material

3330 - 3335 Sandstone, light-green, fine- and medium-grained, clayey. Sandstone, light-pinkish-gray, fine- and medium-grained, arkosic; black spines and platy material; trace

3335 - 3340 Sand, fine- to coarse-grained, arkosic, chloritic

3340 - 3345 Amphibolite; see McCormick, 1961

3345 - 3490 Samples not described

TD samples 3490 feet

Fayette County
Jasper Township
VMSL 5351

Kewanee Oil Co. #1 Barnes
Permit No. 4
Sample No. 767
Elevation (CM) 1043 feet

Depth (ft)

1700 - 1710 Limestone, light-gray and light- and medium-

brown, lithographic; argillaceous in part

1710 - 1715 As above. Shale, light-green; trace

1715 - 1725 Limestone as above, micrograined in part. Dolomite, medium-brown, microsucrosic; trace

1725 - 1745 Limestone, very light-yellowish-brown to light-yellowish-gray, lithographic

1745 - 1755 Limestone as above. Limestone, light-brown, lithographic and micrograined, argillaceous; minor. Dolomite, light- and medium-brown, microsucrosic; minor to trace

1755 - 1760 Limestone, light-brown, lithographic and micrograined; argillaceous in part; patches of microsucrosic dolomite

1760 - 1765 Limestone as above. Siltstone, light-grayish-green, dolomitic, argillaceous, slightly sandy (very fine- and fine-grained sand). Wells Creek Dolomite

1765 - 1780 As above. Shale, medium-grained, dolomitic; heavy trace. Sandstone, light-gray, very fine-grained, silty, argillaceous; heavy trace to trace

1780 - 1790 Dolomite, very light-brown, microcrystalline, sandy (very fine- and fine-grained sand), silty. Dolomite, light-grayish-brown, microcrystalline (dolosiltite), silty

1790 - 1810 Shale, light-green, silty, pyritic, dolomitic. Siltstone, light-gray and greenish-gray, dolomitic, very sandy (very fine- to medium-grained sand). Dolomite as above, minor. Sand, fine- to coarse-grained, rounded and frosted; heavy trace

1810 - 1820 Siltstone as above, very sandy, grading into light-brown dolomite

1820 - 1825 Dolomite, light-brown, microcrystalline (dolosiltite), fractured (fractures filled with sparry dolomite that obliterates oolites), sandy; in part oolitic (fine- and medium-grained, grain-supported, sand-centered); containing patches of medium-green clay (glauconite?). Dolomite, light- to medium-brown, slightly grayish, microcrystalline (dolosiltite), pelletal (very fine-grained, consisting of clayey white material). Dolomite, very light- and medium-brown, microcrystalline (dolosiltite), very sandy (fine- and medium-grained sand), grading into sandstone. KNOX DOLOMITE at 1795 feet (GRN)

1825 - 1840 As above. Dolomite, medium-brownish-gray, microcrystalline, slightly sucrosic (very fine)

1840 - 1850 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite); in part oolitic and pelletal as above; fractured as above; some pinpoint porosity and vuggy porosity (dissolved oolites and pellets). Dolomite, light-grayish-brown, pelletal, siliceous; may be chert; trace to 1845 feet

1850 - 1855 Dolomite, very light-yellowish-brown to light-gray, microcrystalline (dolosiltite), slightly glauconitic, very sandy; grading into very fine- and fine-grained sandstone

1855 - 1860 As above. Dolomite, very light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, pelletal (medium-grained, pellets visible only in very thin edge of chips)

1860 - 1865 Dolomite as above, pelletal, oolitic in part; in part replaced by chert; some vuggy dolomite; scattered patches of medium-green clay (glauconite?) on dolomite

1865 - 1870 Dolomite as above. Dolomite, very light- to light-gray, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- to medium-grained sand); green clay as above

1870 - 1880 Dolomite, very light-brown, pink, light- and medium-brown, microcrystalline (dolosiltite) to medium crystalline; pelletal in large part; some vuggy porosity

1880 - 1885 Dolomite, medium-grayish-brown, microcrystalline (dolomicrite), sandy (very fine- and fine-grained sand). Dolomite, light-brown, microcrystalline and very finely crystalline

1885 - 1900 Dolomite, very light-yellowish-brown to medium-grayish-brown, microcrystalline (dolomicrite) to finely crystalline, sandy (very fine- to medium-grained sand); some silicified oolites to 1890 feet

1900 - 1905 Dolomite, very light-yellowish-brown and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Sandstone, light-gray and brownish-gray, fine-grained, dolomitic; heavy trace

1905 - 1910 Dolomite, medium- to dark-brown, microcrystalline, pelletal (medium-grained, grain-supported), very finely sucrosic. Dolomite as above, minor

1910 - 1915 Dolomite as above, pelletal, minor. Dolomite, light-yellowish-brown to medium-brown, microcrystalline (dolosiltite)

1915 - 1925 Dolomite as above, sandy (fine- to coarse-grained sand, rounded and frosted); some pinpoint porosity. Dolomite, very light-gray, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (fine- to coarse-grained sand as above)

1925 - 1945 Dolomite, very light-gray and brown, microcrystalline (dolomicrite and dolosiltite). Dolomite, very light-gray, microcrystalline, very finely and finely sucrosic. Dolomite, medium-brown, microcrystalline (dolosiltite), pelletal; heavy trace to trace

1945 - 1960 Dolomite, medium-brown, microcrystalline; very finely sucrosic in part; few pellets. Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite)

1960 - 1965 Dolomite as above, medium brown. Chert, very light-gray, oolitic (sand-centered, doubly centered in part); heavy trace

1965 - 1985 Dolomite as above. Dolomite, very light-yellowish-brown to light-brown and very light-gray, microcrystalline (dolosiltite); sandy in part (very fine- to coarse-grained sand); some pellets and some pinpoint porosity

1985 - 2015 Dolomite, very light-yellowish-brown and gray to medium-brown, microcrystalline. Dolomite, very light-gray, microcrystalline (dolosiltite), sandy; trace. Chert, very light-gray, oolitic; trace

2015 - 2080 Dolomite as above, very light yellowish brown and gray to medium brown (predominantly very light and light yellowish brown)

2080 - 2200 Dolomite, light-brown and yellowish-brown, microcrystalline (dolosiltite); minor vuggy porosity. Dolomite, light- to medium-brown, microcrystalline and very finely crystalline; very finely sucrosic in part

2200 - 2260 Dolomite, very light-brownish-gray and light- to medium-brown, microcrystalline and very finely crystalline, silty. Dolomite, white, microcrystalline (dolosiltite), slightly glauconitic, very sandy and silty (very fine-grained sand). "B zone"

2260 - 2290 Dolomite, white to very light-gray, microcrystalline (dolosiltite), silty. Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, silty, sandy (very fine-grained sand). Sandstone, light-gray, very fine-grained, slightly glauconitic, dolomitic; trace. Base "B zone" at 2290 feet

2290 - 2340 Dolomite, very light-yellowish-brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; minor vuggy porosity. Sandstone, light-gray, very fine-grained, slightly glauconitic; trace to absent

2340 - 2360 Dolomite as above, finely crystalline in part, predominantly very light yellowish brown to light yellowish gray

2360 - 2395 Dolomite, medium-brown, finely and medium crystalline. Dolomite, very light- and light-brown and grayish-brown, microcrystalline (dolosiltite)

2395 - 2410 Dolomite, medium-brown, finely and medium-crystalline; some vuggy porosity; sucrosic in part

2410 - 2440 Dolomite, very light-yellowish-brown to medium-brown, microcrystalline to finely crystalline; sucrosic in part

2440 - 2540 Dolomite as above. Pyrite, heavy trace to 2445 feet

2540 - 2570 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) to medium-crystalline, sandy (very fine- and fine-grained sand). Dolomite, light-yellowish-gray, microcrystalline (dolosiltite), pelletal (fine-grained, grain-supported), sandy, very slightly glauconitic. CONASAUGA FORMATION at 2540 feet

2570 - 2575 Dolomite, light-yellowish-gray and light-grayish-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- and fine-grained sand), very slightly glauconitic. Dolomite, light-yellowish-brown to medium-brown, microcrystalline, sandy; very finely sucrosic in part

2575 - 2590 As above, part of light-grayish-brown dolomite grading into sandstone

2590 - 2605 Dolomite, very light-yellowish-brown to medium-brown, predominantly microcrystalline, slightly sandy. Sandstone, light-grayish-brown to brownish-gray, very fine- and fine-grained; trace

2605 - 2610 Dolomite as above. Siltstone, light-brown, sandy (very fine-grained sand), slightly dolomitic; heavy trace. Limestone, dark-gray, coarsely crinoidal; trace (in place?)

2610 - 2620 Dolomite as above. Siltstone as above, heavy trace. Shale cavings

2620 - 2625 Siltstone, medium-brown, slightly grayish, argillaceous, slightly dolomitic; cavings

2620 - 2635 Siltstone as above. Siltstone, light-brown

2635 - 2650 Siltstone as above, in part grading into dark-grayish-brown shale. Dolomite, very light-yellowish-brown, microcrystalline

2650 - 2665 Siltstone, light- to dark grayish-brown, argillaceous. Limestone, light- and medium-brown and light-gray, lithographic, fossiliferous (slender, curved needlelike fossils or fossil remains); bioclastic in part; silty in part. Sandstone, light-pinkish-brown, very fine-grained; trace

2665 - 2715 Argillaceous siltstone (or silty shale) as above. Siltstone and very fine-grained sandstone, light-brown to pinkish-brown, micaceous, glauconitic. Limestone as above, minor. Dolomite, light-brown, microcrystalline; heavy trace

2715 - 2740 Siltstone and very fine-grained sandstone, light-brown to pinkish-brown and light-greenish-gray, micaceous, slightly dolomitic, glauconitic. Shale, dark-greenish-gray (trace, reddish-brown), silty, micaceous; minor. Limestone as above, trace

2740 - 2745 As above, minor part of shale reddish brown

2745 - 2755 No samples

2755 - 2775 Siltstone and very fine-grained sandstone as above. Shale, dark-greenish-gray and dark-reddish-brown. Limestone, very light- and light-gray and light-brown, silty, dolomitic; lithographic in part; fossiliferous or bioclastic in part

2775 - 2780 Dolomite, light-yellowish-gray, very light- and light-brown, microcrystalline and very finely crystalline, silty, sandy (very fine-grained sand). Shale, dark-greenish-gray and brownish-gray. Limestone, light-gray, brownish-gray, and brown, lithographic, silty; trace

2780 - 2785 Dolomite as above. Limestone as above. Siltstone, medium-brown, greenish-gray, and light-gray, slightly glauconitic and dolomitic. Shale, dark-greenish-gray; minor

2785 - 2790 No samples

2790 - 2800 As above

2800 - 2805 Siltstone and very fine-grained sandstone, light- and medium-brown and grayish-brown, dolomitic, slightly glauconitic. Shale as above, trace

2805 - 2820 No samples

2820 - 2830 Sandstone, light-pinkish-yellow, light-gray, light- and medium-brown, glauconitic, dolomitic. Dolomite, very light-gray, very finely and finely crystalline, glauconitic, sandy (very fine-grained sand); trace. Shale, dark-greenish-gray; trace

2830 - 2835 No samples

2835 - 2845 As above. Sandstone, pinkish brown in part

2845 - 2860 Sandstone, light-pinkish-brown, very fine- and fine-grained; glauconitic in part. Shale, dark-greenish-gray; trace

2860 - 2865 No samples

2865 - 2910 Sandstone as above. Shale as above, trace

2910 - 2960 Sandstone as above, brachiopod valve fragments. Shale as above, minor. Dolomite, very light-brown and gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine-grained sand); heavy trace. ROME FORMATION at 2940 feet (GRN)

2960 - 3005 Sandstone, very light- and light-brown, very fine- and fine-grained, dolomitic; few medium-sized grains; slightly glauconitic in part. Dolomite, light-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand), very slightly glauconitic; minor

3005 - 3025 As above, few coarse sand grains

3025 - 3040 Dolomite as above, very sandy, dolomicrite in part. Sandstone, very light-brown and brownish-gray, very fine- and fine-grained, dolomitic; friable in part; scattered medium- and coarse-grained sand in both dolomite and sandstone

3040 - 3045 No samples

3045 - 3055 As in sample from 3035 to 3040 feet

3055 - 3080 Sandstone as above. Dolomite as above, minor

3080 - 3090 Sandstone, light-yellowish-brown and gray and light-brown, very fine- and fine-grained; some medium- and coarse-grained sand. Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to coarse-grained sand); oolitic in part (medium-grained oolites, grain-supported); heavy trace

3090 - 3100 Sandstone as above. Sandstone, light- and medium-gray. Dolomite, light- and medium-brown to grayish-brown, microcrystalline (dolosiltite), very sandy (fine-grained sand), oolitic (fine- and medium-grained, grain- and mud-supported)

3100 - 3120 As above, predominantly dolomite; oolitic in part

3120 - 3130 Dolomite, light- and medium-brown and gray-

ish-brown, microcrystalline (dolosiltite), oolitic (fine- and medium-grained, grain-supported and mud-supported), pelletal (very fine- to medium-grained, very fine-grained pellets very light-brown to brownish-gray), very sandy (very fine- to medium-grained sand). Sandstone, light-brown, fine- and medium-grained; minor

3130 - 3140 Sandstone, very light- and light-brown to pinkish-brown, light- and medium-gray, very fine- to coarse-grained (predominantly fine), poorly sorted; dolomitic in part. Dolomite as above, very sandy; subequal. MT. SIMON SANDSTONE at 3130 feet

3140 - 3165 Sandstone, very light-pinkish-brown, fine- and medium-grained, few coarse grains. Dolomite as above, trace

3165 - 3185 Sandstone, light-pinkish-yellow and light-gray, predominantly fine-grained, glauconitic; dark-gray shale laminae

3185 - 3195 Sandstone, light-pinkish-yellow, light-gray and brownish-gray, fine- and medium-grained; dolomitic in part; glauconitic in part

3195 - 3200 Sandstone as above, predominantly very light pinkish yellow

3200 - 3230 Sandstone, light-pinkish-yellow, very light-grayish-brown and light-brown, very fine- and fine-grained

3230 - 3240 Sandstone, white, pinkish-yellow, fine- to coarse-grained, poorly sorted

3240 - 3250 No samples

3250 - 3270 Sandstone as above, friable, predominantly coarse-grained (rounded and frosted grains)

3270 - 3280 No samples

3280 - 3310 Sandstone as above

3310 - 3320 No samples

3320 - 3340 Sandstone as above, red in part

3340 - 3365 No samples

3365 - 3370 Misplaced sample

3370 - 3380 No samples

3380 - 3410 Trachyte porphyry; see McCormick, 1961. PRECAMBRIAN at 3332 feet (GRN)

TD 3410 feet

Fayette County
Union Township
VMSL 663

Kewanee Oil Co. #1 Hopkins
Permit No. 1
Sample No. 750
Elevation (CM) 965 feet

Depth (ft)

1870 - 1875 Limestone, light- and medium-brown, lithographic and very finely crystalline (dolomicrite); spar-filled cracks and patches of silt-sized crystalline dolomitic calcite

1875 - 1880 Limestone as above. Dolomite, very light-grayish-green, sandy (very fine-grained sand), argillaceous, silty; trace

1880 - 1890 Limestone as above. Dolomite as above, very argillaceous, possibly grading into shale

1890 - 1910 Dolomite, light-gray to very light-brownish-gray, finely crystalline (mostly anhedral crystals in a sparry matrix), slightly pyritic, silty. Limestone and shale as above, minor. KNOX DOLOMITE at 1893 feet

1910 - 1915 Dolomite, light-brown, microcrystalline. Dolomite, very light-grayish-brown, microcrystalline, pyritic. Dolomite as above, minor, sandy in part (very fine- and fine-grained sand)

1915 - 1925 Dolomite, light-brown, microcrystalline. Dolomite, white, sandy (fine- and medium-grained sand), siliceous and cherty, microcrystalline, pelletal. Chert, white, sandy; oolitic and crystalline in part. Sandstone, very light-gray, fine- and medium-grained; trace

1925 - 1930 Dolomite, very light- and light-gray and brown, very finely crystalline

1930 - 1935 Dolomite as above, sandy in part (fine- and medium-grained sand). Chert, white, sandy; trace

1935 - 1950 Dolomite, light-brown, very finely crystalline, glauconitic? (patches of dark-green clay mineral); sandy in part; pyritic in part; some vuggy and intercrystalline porosity

1950 - 1960 Dolomite as above, microcrystalline to medium crystalline. Pyrite, botryoidal; trace

1960 - 1970 Dolomite as above, pelletal in part, with porosity due to dissolution of pellets. Pyrite as above, trace

1970 - 1980 Dolomite as above, excellent porosity as above

1980 - 1985 Dolomite, very light-grayish-brown to light-brown, slightly sandy in part (fine-grained sand), very finely to medium-crystalline; trace of pelletal porosity as above

1895 - 1995 Dolomite as above, glauconitic in part. Sandstone, light-gray, fine- and medium-grained, glauconitic; trace

1995 - 2000 Dolomite as above. Sandstone as above, heavy trace

2000 - 2005 Dolomite as above

2005 - 2025 Dolomite, very light- and light-brown to yellowish-brown and light-gray, microcrystalline (dolomicrite in large part); may be pelletal in part; slightly glauconitic in part

2025 - 2030 Dolomite, medium-brown, slightly yellowish, very finely and finely crystalline. Dolomite, light-yellowish-gray, microcrystalline (dolomicrite); trace. Dolomite, light-gray, sandy (very fine-grained sand), microcrystalline to very finely crystalline, silty; trace

2030 - 2035 As above; medium-brown dolomite pelletal in part, pellets dissolved and filled with dolomite. Chert, white; pelletal porosity as in dolomite sample from 1960 to 1970 feet

2035 - 2050 Dolomite, light-yellowish-brown to medium-brown, very finely and finely crystalline, slightly pelletal and oolitic; sandy in part with patches of dolomicrite; minor vuggy porosity

2050 - 2060 Dolomite, light- to medium-brown, very finely crystalline; pelletal with minor pinpoint porosity

2060 - 2070 Dolomite as above, oolitic in part (floating oolites, several with sand grains as center). Sandstone, light-gray, fine- and medium-grained, glauconitic; trace. Chert, white, crystalline, sandy, oolitic; replacement of dolomite; trace (one piece)

2070 - 2075 Dolomite as above. Sandstone as above, heavy trace. Dolomite, very light- to light-gray, microcrystalline

2075 - 2080 Dolomite, light- and medium-brown, microcrystalline and very finely crystalline; pelletal in part. Dolomite, very light- and light-gray and brownish-gray, microcrystalline to medium-crystalline. Sandstone as above, trace

2080 - 2090 Dolomite, very light-yellowish-brown, microcrystalline and very finely crystalline; mostly cavings

2090 - 2095 Dolomite as above. Dolomite, light-brownish-gray, microcrystalline, pelletal; minor

2095 - 2100 Dolomite, light-brownish-gray, microcrystalline to medium-crystalline

2100 - 2105 Dolomite, very light-brown to light-brown and very light-gray, microcrystalline and very finely crystalline. Dolomite, light- to medium-brown, microcrystalline; porosity due to dissolution of pellets (just like dolomite in sample from 1960 to 1970 feet). Chert, white,

oolitic; trace (one piece)

2105 - 2110 Dolomite as above. Chert, white, medium-brown, oolitic, pelletal; trace

2110 - 2115 Dolomite, light- and medium-brown, microcrystalline; excellent pelletal porosity (as dolomite in sample from 2100 to 2105 feet)

2115 - 2125 Dolomite, light-brown, microcrystalline and very finely crystalline, pelletal. Dolomite, light-gray, microcrystalline and very finely crystalline

2125 - 2130 Dolomite, light-brown, microcrystalline and very finely crystalline; pelletal and with pelletal porosity in part; dolomicrite in part. Chert, white and light- to dark-brown, abundant; probably oolitic in small part (sand grain as nucleus); in part pelletal or superficially oolitic

2130 - 2135 Dolomite as above. Dolomite, light-gray, very sandy (fine- and medium-grained sand), microcrystalline, glauconitic; trace

2135 - 2150 Dolomite as above. Chert, white and brown as in sample from 2125 to 2130 feet; containing ghost dolomite or calcite crystals (dolomite replacement); trace

2150 - 2160 Dolomite, very light-gray and light-brown, very finely crystalline. Dolomite as above, minor

2160 - 2165 Dolomite as above. Chert, very light-gray to white, oolitic and pelletal; some pellets elongate and with needle-shaped nuclei; trace

2165 - 2185 Dolomite, very light-yellowish-brown, microcrystalline (dolomicrite)

2185 - 2195 Dolomite, medium-brown to grayish-brown, very finely crystalline; few pellets

2195 - 2205 Dolomite as above, medium brown. Dolomite, very light- and light-yellowish-brown, microcrystalline and very finely crystalline

2205 - 2215 Dolomite, very light-yellowish-brown, very finely crystalline; good vuggy porosity in part

2215 - 2220 Dolomite, medium-brown, very finely to medium crystalline. Dolomite, light-yellowish-gray, microcrystalline and very finely crystalline (dolomicrite and dolosiltite)

2220 - 2225 Dolomite, light- and medium-yellowish-brown, very finely and finely crystalline; good vuggy and intercrystalline porosity in part. Chert, white, pelletal; trace. Dolomite, white to very light-gray, microcrystalline (dolosiltite); minor to trace

2225 - 2280 Dolomite, very light-brown to yellowish-brown, very finely and finely crystalline (dolomicrite?); excellent pinpoint and vuggy porosity that may be due to dissolution of pellets, which are not visible

2280 - 2285 Dolomite, light- and medium-brown, finely and medium-crystalline. Dolomite as above, nonporous, minor

2285 - 2295 As above; excellent vuggy and intercrystalline porosity in light- and medium-brown dolomite

2295 - 2305 Dolomite, light- and medium-brown, finely and medium-crystalline; porous as above in part. Dolomite, very light-gray to light-yellowish-gray, microcrystalline (dolosiltite)

2305 - 2315 Dolomite as above, light- and medium-brown; excellent porosity

2315 - 2325 Dolomite as above. Dolomite, very light-gray (dolosiltite)

2325 - 2330 Dolomite, very light- to medium-brown, very finely and finely crystalline; pelletal? in part

2330 - 2335 Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite)

2335 - 2340 Dolomite as above (dolosiltite)

2340 - 2345 Dolomite, light-yellowish-brown, finely and medium-crystalline; minor vuggy porosity. Dolomite, light-brownish-gray, microcrystalline (dolosiltite), slightly glauconitic; minor

2345 - 2350 Dolomite as above, light yellowish brown

2350 - 2360 Dolomite, very light-gray, microcrystalline (dolomicrite and/or dolosiltite); slightly glauconitic in part. Dolomite as above, minor

2360 - 2365 Dolomite, very light-yellowish-brown to light-brown, microcrystalline and very finely crystalline (dolosiltite); slightly glauconitic in part. Dolomite, light-gray, microcrystalline, silty, glauconitic. Siltstone, light- and medium-gray, glauconitic, argillaceous; trace

2365 - 2380 Dolomite as above, very light yellowish brown to light brown. Siltstone as above, heavy trace to trace

2380 - 2385 Dolomite as above, in small part laminated with slightly glauconitic light-gray dolomite (dolosiltite) and pencil-thin dark-brown shaly dolomite

2385 - 2405 Dolomite as in sample from 2365 to 2380 feet. Siltstone, light-gray, glauconitic; trace. Dolomite, very light-gray, microcrystalline, silty, slightly glauconitic; trace

2045 - 2415 Dolomite, light- and medium-brown, very finely crystalline; minor vuggy porosity

2415 - 2430 Dolomite, light-yellowish-brown and light-brown, very finely and finely crystalline

2430 - 2435 Dolomite, white to light-yellowish-gray, medium- and coarsely crystalline; good intercrystalline porosity in part. Dolomite as above, minor

2435 - 2440 Dolomite, very light- and light-gray, microcrystalline (dolosiltite), very slightly glauconitic. Dolomite as above, medium- and coarsely crystalline, minor

2440 - 2445 Dolomite, very light-gray, medium- and coarsely crystalline

2445 - 2480 Dolomite, very light-brownish-gray to light-brown, finely and medium-crystalline (predominantly fine)

2480 - 2485 Dolomite as above. Dolomite, white, finely and medium-crystalline

2485 - 2495 Dolomite, very light-gray and brownish-gray to light-brown, very finely (dolosiltite) and finely crystalline

2495 - 2500 Dolomite, light- and medium-brown, finely and medium-crystalline

2500 - 2510 Dolomite, light- and medium-brown, very finely and finely crystalline; some vuggy porosity (red clay in vugs). Dolomite, light-gray, microcrystalline (dolosiltite), silty; slightly pyritic in part. Dolomite, very light-gray, finely and medium-crystalline; minor

2510 - 2515 Dolomite, white- to very light-gray, very finely and finely crystalline

2515 - 2520 Dolomite as above. Dolomite, medium-gray, microcrystalline (dolosiltite), slightly pyritic, silty; trace

2520 - 2525 Dolomite, very light-brownish-gray and gray, medium-crystalline; sucrosic in part (recrystallized)

2525 - 2530 Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite)

2530 - 2535 Dolomite, light- and medium-brown, finely and medium-crystalline (with granular texture: dolarenite?). Chert, white, oolitic, in one piece pseudomorphic after dolomite (or calcite) crystal; trace. Dolomite, very light-gray and light-gray, microcrystalline and very finely crystalline

2535 - 2545 As above; dolarenite(?) in part recrystallized to give sucrosic texture with vuggy and intercrystalline porosity

2545 - 2560 Dolomite (dolarenite?) as above

2560 - 2570 As above. Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite); minor
2570 - 2580 Dolomite (dolarenite?) as above
2580 - 2615 As above. Dolomite, very light-gray to brownish-gray and light- and medium-brown, very finely and finely crystalline; minor to trace
2615 - 2620 As above. Sandstone, light-gray, very fine-grained, glauconitic; as bands (1 mm thick) in dolomite as above
2620 - 2640 As in sample from 2580 to 2615 feet, dolarenite(?) in minor amounts
2640 - 2645 Dolomite, light- and medium-brown, very finely and finely crystalline; grading into medium crystalline (dolarenite? as above)
2645 - 2650 As above and very light gray. Dolomite, light-brown, microcrystalline, pelletal
2650 - 2655 Dolomite, pelletal as above; pellets up to medium-grained sand in size; sparry dolomite; superficial oolites (medium-brown nucleus with homogeneous thin light-gray coating). Dolarenite(?) as above, minor. Sandstone, light-gray, very fine- and fine-grained, slightly dolomitic, glauconitic; trace
2655 - 2660 As above, silty in part. Dolomite, light-brown and very light-gray, microcrystalline (dolosiltite); silty in part
2660 - 2665 Dolomite, very light- to medium-brown, very finely to medium-crystalline; dolarenite(?) in part; glauconitic in part; floating medium-grained sand
2665 - 2685 Dolomite, light-brown, microcrystalline (dolosiltite). Shale, gray, calcareous; fossiliferous in part (cavings); heavy trace from 2675 to 2680 feet. Dolomite and dolarenite(?) as above, pelletal; trace
2685 - 2695 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline. Dolomite, very light-gray, microcrystalline (dolomicrite), very slightly sandy (very fine- and fine-grained sand). Dolomite, very light-brown, recrystallized, sucrosic; vuggy porosity; trace
2695 - 2705 Dolomite, very light- and light-brown, very finely and finely crystalline; sandy in part (very fine- and fine-grained sand). Dolomite, pelletal as in sample from 2650 to 2655 feet; trace
2705 - 2710 Dolomite as above, sandy (sand in part medium grained). Sandstone, very light-gray, dolomitic, very fine- and fine-grained; trace
2710 - 2720 Dolomite, light- and medium-brown, sandy (very fine-grained sand), very finely and finely crystalline. Dolomite as above, minor. Sandstone as above, trace
2720 - 2725 No samples
2725 - 2730 Dolomite, very light- and light-brown, microcrystalline, very sandy (some medium-grained sand); grading into very dolomitic sandstone. CONASAUGA FORMATION at 2725 feet
2730 - 2745 As above, mostly sandstone. Sandstone, black, fine-grained, with silty and argillaceous matrix; trace to 2735 feet
2745 - 2775 As above, light grayish brown in part. Shale, dark-grayish-brown, silty; as laminations in sandstone; trace
2775 - 2780 Dolomite, light-brown to medium-grayish-brown, microcrystalline and very finely crystalline, silty to very silty, sandy (very fine-grained sand), slightly glauconitic
2780 - 2785 Dolomite, light- and medium-brown, microcrystalline; silty and sandy as above in part
2785 - 2790 As above. Shale, light- and medium-gray, calcareous; fossiliferous in part; cavings
2790 - 2795 Dolomite as in sample from 2775 to 2780 feet
2795 - 2805 Dolomite as above. Shale, medium-gray; micaceous in part. Shale, light- and medium-gray, fossiliferous; cavings
2805 - 2810 Shale, medium- and dark-grayish-brown, silty, slightly dolomitic. Limestone, very light-gray and very light- to medium-brown, sublithographic; minor
2810 - 2825 Shale as above. Shale, medium-gray, micaceous. Limestone as above, minor
2825 - 2830 Limestone, medium-brown, pelletal (medium-grained), dolomitic. Shale as above. Sandstone, very light-brown, fine-grained, glauconitic; trace
2830 - 2835 Sandstone, very light- and light-brown, very fine- and fine-grained, slightly dolomitic, slightly glauconitic. Shale as above. Limestone as above, trace
2835 - 2840 Shale as above. Sandstone as above. Limestone, very light-brown, fragmental, very glauconitic; minor
2840 - 2855 As above. Shale, dark-brown to reddish-brown; trace
2855 - 2860 Shale, medium-gray, slightly greenish; micaceous in part. Sandstone and limestone as above, minor to trace
2860 - 2870 Shale, medium-gray, silty; micaceous in part. Sandstone, light-brown, very fine- and fine-grained, dolomitic; slightly glauconitic in part; micaceous in part
2870 - 2895 Shale and sandstone as above. Sandstone, glauconitic; light greenish gray in part
2895 - 2900 Shale as above. Sandstone as above, minor. Limestone, light-brown, microcrystalline, sandy; trace
2900 - 2905 No samples
2905 - 2920 Shale, medium-gray to greenish-gray and dark-reddish-brown. Limestone, medium- to dark-brown, microcrystalline, fossiliferous, silty, minor to trace. Sandstone as above, trace
2920 - 2930 Shale, medium-gray to greenish-gray, silty, micaceous. Limestone, very light-gray to light-grayish-brown, microcrystalline, silty, fossiliferous; minor. Sandstone, light- and medium-brown, very fine- and fine-grained, micaceous, dolomitic; grading into dolomite; minor
2930 - 2940 Shale as above. Limestone as above, glauconitic, dolomitic; pelletal in part
2940 - 2955 Limestone, light- and medium-brown, microcrystalline to finely crystalline, medium grained in part, dolomitic, glauconitic, silty. Dolomite, light- and medium-brown, finely crystalline, silty, sandy (very fine sand), micaceous; grading into sandstone. Shale as above, trace
2955 - 2965 Dolomite, light- and medium-brown, microcrystalline to finely crystalline, glauconitic, very silty, very sandy (very fine-grained sand), micaceous. Shale and limestone as above, trace
2965 - 2970 As above, part of dolomite grading into sandstone
2970 - 2995 Sandstone, light-yellowish-brown to light-brown and light- and medium-greenish-gray, very fine-grained, glauconitic, micaceous, dolomitic; partings of medium-gray to greenish-gray shale. EAU CLAIRE lithology
2995 - 3028 No samples (core)
3028 - 3030 Sandstone, light-brown, very fine- and fine-grained, dolomitic. Shale, light- and medium-gray; cavings?
3030 - 3040 Sandstone, light-brown, very fine- and fine-grained, dolomitic. Shale as above, trace
3040 - 3050 Sandstone as above, very dolomitic in part
3050 - 3055 Sandstone as above, slightly glauconitic
3055 - 3070 Sandstone as above. Shale, dark-greenish-gray,

silty; micaceous in part; minor
3070 - 3095 Shale as above. Sandstone as above, very glauconitic in part to 3080 feet
3095 - 3100 As above. Dolomite, very light-yellowish-gray, microcrystalline, very silty; trace
3100 - 3110 Shale as above. Sandstone as above
3110 - 3115 Sandstone, light-brown to grayish-brown and light-pinkish-yellow, very fine- and fine-grained. Shale, medium- and dark-gray to greenish-gray, silty; minor. ROME FORMATION at 3108 feet (GRN)
3115 - 3125 Sandstone, light-yellowish-gray and very light-gray, fine- and medium-grained (predominantly fine), dolomitic to very dolomitic (upper lower Rome farther north); few pink grains
3125 - 3130 Sandstone as above, predominantly very fine grained
3130 - 3175 Sandstone as in sample from 3115 to 3125 feet, predominantly yellowish gray to pinkish gray
3175 - 3195 Sandstone as above. Sandstone, dark-brown to grayish-brown, very fine-grained, very dolomitic; minor to heavy trace
3195 - 3200 As above; dark-brown sandstone grading into very silty sandy (very fine- and fine-grained sand) dolomite
3200 - 3210 Dolomite, medium-brown, microcrystalline, silty, very sandy (very fine- and fine-grained sand); grading into sandstone. Sandstone, light-yellowish-gray to pinkish-yellow, fine- to coarse-grained (predominantly fine)
3210 - 3220 As above. Dolomite, light-brown, microcrystalline, pelletal (medium-grained, sandy (very fine- and fine-grained sand); trace to 3215 feet
3220 - 3225 Sandstone, very light- and light-brown and pinkish-yellow, very fine- to medium-grained (predominantly fine). Dolomite, light- and medium-brown, sandy (fine-grained sand), microcrystalline; minor
3225 - 3230 As above, much coarse-grained sand in sample. Dolomite, light-gray, pelletal (fine-grained), sandy (very fine- and fine-grained sand); trace
3230 - 3280 Sandstone, light-yellowish-gray to pinkish-gray, fine- to coarse-grained (predominantly fine), dolomitic
3280 - 3285 Sandstone as above. Sandstone, dark-gray, very fine- to medium-grained, poorly sorted, very dolomitic, oolitic, pelletal
3285 - 3290 Dolomite, dark-brown, microcrystalline, oolitic, pelletal, sandy (very fine-grained sand); pinpoint porosity. Sandstone as above, yellowish-gray; trace
3290 - 3295 Sandstone, light-yellowish-gray and pinkish-gray, fine- to coarse-grained, poorly sorted. Dolomite as above, minor
3295 - 3315 No sample (core)
3315 - 3320 Dolomite, light-grayish-brown to dark-brown, microcrystalline, pelletal (very fine- and fine-grained pellets), sandy (very fine-grained sand), silty. Sandstone as above, trace
3320 - 3324 No samples. MT. SIMON(?), driller's top
3324 - 3330 Sandstone, light-yellowish-gray and pink, fine- and medium-grained (predominantly fine). Dolomite as above, minor. Circulation samples
3330 - 3380 No samples
3380 - 3384 Sandstone, pink and very light-gray. Sand, predominantly medium-grained
3384 - 3390 No samples
3390 - 3400 Sandstone, light-yellowish-gray and pinkish-yellow, very fine- to coarse-grained (predominantly very fine and fine); lithology similar to that in sample from 3230 to 3280 feet
Top of Mt. Simon arbitrary in this well; if placed at base of pelletal dolomite (in core?), Mt. Simon lithology is repeated above top of formation
3400 - 3405 Sandstone as above. Sand, medium- and coarse-grained, subrounded and rounded; minor
3405 - 3410 Sandstone as above
3410 - 3420 As in sample from 3400 to 3405 feet; sandstone in part light brownish gray
3420 - 3425 Sandstone, very light-gray, light-yellowish-gray, and pinkish-gray, very fine- to medium-grained. Sandstone, medium-green to grayish-green, fine- and medium-grained, argillaceous. Shale, red, silty; trace
3425 - 3445 Sandstone as above, in part coated red. Sand, medium- and coarse-grained. Shale as above
3445 - 3470 Sandstone and sand as above, poorly sorted. Shale as above, trace
3470 - 3480 Sand, fine- to coarse-grained, subrounded and rounded
3480 - 3484 No samples
3484 - 3490 Sandstone, light-yellowish-gray to pinkish-gray, fine- and medium-grained; misplaced sample
3490 - 3525 Sand as in sample from 3470 to 3480 feet. Sandstone, fine- to coarse-grained, very light-gray, red; heavy trace to trace
3525 - 3535 Sand as above. Shale, red, silty, sandy; minor
3535 - 3540 Shale as above. Sandstone, red-stained, fine- to coarse-grained. Sand as above
3540 - 3550 Metamorphic rock with much soft green clay; according to McCormick (1961, p. 10-15), top of the PRECAMBRIAN at 3545 feet in the samples; uppermost Precambrian rock amphibolite
3550 - 4707 Samples not examined; see McCormick, 1961
TD samples 4707 feet

Franklin County
Franklin Township
VMSL 530

Marble Cliff Quarries Co.
#1 Marble Cliff Quarries
Permit No. 14
Sample No. 1926
Elevation (KB) 697 feet

Depth (ft)
2150 - 2170 Limestone, very light- to medium-brown, lithographic; fine-grained and crystalline in part; bioclastic in part
2170 - 2200 Limestone as above. Shale, medium-gray and greenish-gray; trace
2200 - 2220 Limestone as above, ostracods. Shale, medium- and dark-brown, dolomitic, silty; trace
2220 - 2240 Limestone as above. Shale, medium- and dark-gray; trace. Siltstone, very light-gray; trace
2240 - 2250 Limestone as above. Dolomite, medium-brown, medium-crystalline (subhedral and euhedral dolomite crystals). Siltstone, very light-green, dolomitic; heavy trace. Dolomite, very light-gray, very finely crystalline, trace
2250 - 2260 Siltstone, very light-gray and light-brown, glauconitic, dolomitic. Dolomite, light- and medium-brown, very finely crystalline, glauconitic. Limestone as above, conglomeratic. Sandstone, very light-gray, medium-grained; argillaceous in part; minor
2260 - 2270 As above. Shale, medium-gray and light- and medium-greenish-gray
2270 - 2280 Dolomite, very light-gray and light- and medium-brown, very finely and finely crystalline, slightly sandy, slightly glauconitic. Sandstone and siltstone as above, trace. KNOX DOLOMITE at 2270 feet
2280 - 2290 Dolomite, light-yellowish-gray to very light-yellowish-brown, very finely and finely crystalline
2290 - 2310 Dolomite as above, slightly glauconitic, py-

ritic in part

2310 - 2340 Dolomite, very light-yellowish-brown to medium-brown, very finely crystalline, slightly oolitic; fine- to coarse-grained in part (rounded interclasts)

2340 - 2350 As above. Chert, very light-brownish-gray; trace

2350 - 2360 Dolomite as above

2360 - 2370 Dolomite, very light-gray, very finely crystalline, very silty (very fine silt), slightly glauconitic, pyritic. Dolomite as above, trace

2370 - 2380 Dolomite, very light-yellowish-brown to medium-brown, very finely and finely crystalline; fine and medium grained in part

2380 - 2390 Dolomite, very light-gray and very light-yellowish-brown, very finely crystalline (dolomicrite), silty. Sandstone, very light-gray, fine- and medium-grained (predominantly fine), slightly glauconitic

2390 - 2440 Dolomite as above, predominantly very light yellowish gray

2440 - 2480 Dolomite, light-yellowish-gray to very light-yellowish-brown, crystalline. Dolomite, light- and medium-brown, very finely crystalline; fine and medium grained in part; minor. Chert, light-brownish-gray; trace (to 2450 feet)

2480 - 2500 Dolomite, light-brown and light-yellowish-gray to yellowish-brown, very finely and finely crystalline; some intercrystalline porosity (developed in recrystallized spar)

2500 - 2540 Dolomite as above, few intraclasts (fine-grained); some subangular and subrounded fine-grained sand in dolomite

2540 - 2560 Dolomite as above. Dolomite, white, microcrystalline (dolomicrite)

2560 - 2620 Dolomite as above. Siltstone, very light-gray, dolomitic, glauconitic; minor to heavy trace. Dolomite, very light-gray, microcrystalline, sandy (very fine- and fine-grained sand); heavy trace to trace

2620 - 2640 As above. Dolomite, light- and medium-brown, very finely and finely crystalline, fine-grained

2640 - 2670 Dolomite, very light-yellowish-brown and light-brown, very finely and finely crystalline; very fine grained in part

2670 - 2690 Dolomite as above. Dolomite, white and very light-gray to brownish-gray, microcrystalline, silty (very fine silt)

2690 - 2740 Dolomite, white and very light-gray, microcrystalline to coarsely crystalline; very fine grained in part; sharp contact

2740 - 2750 Dolomite as above. Dolomite, light-gray, microcrystalline to finely crystalline, fine- to coarse-grained; 10%

2750 - 2830 Dolomite, very light- and light-brown and brownish-gray, microcrystalline to finely crystalline, fine- and medium-grained. Dolomite as above, white; trace

2830 - 2840 Dolomite, brown and brownish-gray as above. Dolomite, white, microcrystalline and very finely crystalline (dolomicrite)

2840 - 2860 Dolomite, white as above

2860 - 2880 Dolomite, white as above. Dolomite, light- and medium-brown, microcrystalline to finely crystalline, fine-grained

2880 - 2940 Dolomite as above, sandy in part (rounded very fine- and medium-grained sand; medium grained frosted in part). Sandstone, very light- to medium-gray, fine-grained, silty; heavy trace. KERBEL FORMATION at 2880 feet

2940 - 2950 As above. Sand, fine- to coarse-grained; roundness increasing with grain size; heavy trace

2950 - 2960 Dolomite, white and very light-brown, microcrystalline to very finely crystalline (dolomicrite), very slightly sandy (angular very fine- and fine-grained sand)

2960 - 2970 Dolomite as above. Dolomite, very light- and light-brown to grayish-brown, very finely and finely crystalline, fine-grained, silty and slightly sandy (fine-grained sand)

2970 - 2980 Dolomite as above. Dolomite, brown, sandy (predominantly fine-grained sand, minor amount medium-grained sand); in part grading into fine-grained sandstone

2980 - 3000 Dolomite as above. Shale, dark-brown, dolomitic, silty; trace

3000 - 3010 Shale, light- and medium-grayish-green; minor amount dark reddish brown. Dolomite, white and very light-brownish-gray, microcrystalline and very finely crystalline, slightly sandy (cavings?). Dolomite, light- and medium-brown, finely crystalline, fine-grained; sandy as dolomite above (cavings?). Limestone, very light-gray, micrograined, fossiliferous (crinoidal); in place? CONSAUGA FORMATION at 2995 feet

3010 - 3020 Shale as above. Dolomite as above, trace

3020 - 3080 Shale as above. Sandstone, light- to dark-gray, brownish-gray and greenish-gray, very fine- and fine-grained (angular grains), silty, glauconitic, micaceous (brown mica). Dolomite, white, microcrystalline and very finely crystalline. Dolomite, light- and medium-brown, microcrystalline and very finely crystalline, sandy (fine-grained sand), silty, glauconitic, fossiliferous? (brachiopods, corals?)

3080 - 3120 As above; sandstone, dolomite, shale in decreasing order; sandstone predominantly very light and light brown; dolomite probably bioclastic

3120 - 3130 As above. Sand, fine- and medium-grained, rounded; heavy trace

3130 - 3150 Dolomite, white and very light-yellowish-brown, microcrystalline to finely crystalline, oolitic, fine-grained, sandy to very sandy (very fine- and fine-grained sand, pink in part). Sandstone, dolomite, and shale as above, trace. ROME FORMATION at 3121 feet (GRN)

3150 - 3180 As above, sand white and very light yellowish brown; dolomite medium and coarse grained in part and rounded

3180 - 3200 Dolomite as above, very sandy

3200 - 3225 Dolomite, very light- and light-brown and very light-gray, microcrystalline and very finely crystalline, fine-grained, oolitic, sandy (very fine- and medium-grained sand). Shale, dolomite, limestone cavings

3225 - 3230 Sandstone, very light-brown, very fine-grained (trace fine- and medium-grained), dolomitic to very dolomitic, grading into contact with dolomite above

3230 - 3235 Sandstone as above. Sand, fine- to coarse-grained, subrounded to rounded; heavy trace

3235 - 3245 Sandstone as above, very light-brown, light- and medium-brown, very light-brownish-gray. Sand as above, heavy trace

3245 - 3250 As above, sandstone glauconitic and micaceous (EAU CLAIRE facies). Dolomite, light- and medium-brown, very finely and finely crystalline, fine-grained, sandy (very fine- to medium-grained sand); heavy trace

3250 - 3255 Sandstone as above. Siltstone, very light-brown to light-brownish-gray and grayish-brown, dolomitic, glauconitic (may contain very fine sand). Dolomite as above, heavy trace. Dolomite, white, microcrystalline and very finely crystalline, very fine-grained, sandy (very fine- to coarse-grained sand); trace

3255 - 3270	Dolomite, very light-brownish-gray, microcrystalline (dolomicrite), sandy (very fine- and fine-grained sand)
3270 - 3320	Dolomite, very light- to medium-brown; fine grained as above
3320 - 3330	Dolomite, very light- to medium-brown, very light-yellowish-brown, microcrystalline and very finely crystalline, fine-grained, oolitic, sandy (very fine- to coarse-grained sand)
3330 - 3360	Dolomite as above, dark brown in part
3360 - 3370	Dolomite, very light-gray, brownish-gray, and grayish-brown to dark-brown, very finely and finely crystalline, oolitic, sandy (very fine- to coarse-grained sand); fine to medium grained in part. Sandstone, light-yellowish-gray to very light-yellowish-brown, dolomitic, fine-grained, slightly glauconitic; trace
3370 - 3380	Dolomite as above, very sandy (predominantly fine-grained sand)
3380 - 3390	Sandstone, pinkish-yellow, fine-grained. Sand, fine- and medium-grained
3390 - 3400	Sandstone as above, very light brown, very dolomitic in part
3400 - 3405	Sandstone as above, in part grading into sandy dolomite
3405 - 3410	Sandstone as above. Dolomite, very light-yellowish-brown to medium-brown, very finely crystalline, fine-grained, sandy (very fine- and fine-grained sand)
3410 - 3415	Dolomite, very light-brown to medium-grayish-brown, very finely crystalline, fine-grained, sandy (very fine- and fine-grained sand)
3415 - 3420	Dolomite as above. Sandstone, pinkish-yellow, fine-grained; trace
3420 - 3435	As above, fine- and medium-grained light- to dark-brown oolites in dolomite
3435 - 3445	Dolomite as above. Sand, fine- and medium-grained, predominantly fine; 40%
3445 - 3455	Dolomite as above. Sand, fine- and medium-grained; heavy trace
3455 - 3465	As above; 10-20% sand, becoming fine- to coarse-grained (predominantly fine) at 3460 feet
3465 - 3475	Dolomite as above. Sand as above, 30%
3475 - 3485	Sand, fine- to coarse-grained (predominantly medium), angular (broken?) to rounded (predominantly subrounded). Sandstone, pinkish-yellow, fine-grained; trace. Dolomite as above, trace. MT. SIMON SANDSTONE at 3475 feet
3485 - 3495	Sand as above
3495 - 3505	Sand as above. Sandstone as in sample from 3475 to 3485 feet, trace to heavy trace
3505 - 3515	No samples
3515 - 3525	Shale and limestone cavings. Sand, fine- to coarse-grained (predominantly coarse), rounded and frosted. Sandstone, light-yellowish-gray, fine- and medium-grained, dolomitic
3525 - 3555	Sand, fine- to coarse-grained (predominantly medium), subrounded
3555 - 3560	Sand as above. Sandstone, light-yellowish-gray, fine- to coarse-grained, poorly sorted
3560 - 3565	Sand, medium-grained, subrounded (predominantly) and rounded
3565 - 3590	Sand, fine- to coarse-grained (predominantly medium), subrounded and rounded
3590 - 3595	Sand, pink, medium- and coarse-grained (quartz under petrographic microscope); red in part
3595 - 3605	Sand as above. Orthoclase, red, angular to rounded; minor
3605 - 3615	Sand (red, pink, and white quartz), fine- to coarse-grained (predominantly medium and coarse), angular. Orthoclase, red. Plagioclase, trace. Granite gneiss or granite. PRECAMBRIAN at 3606? feet
3615 - 3620	As above. Red flaky material (hematite?), trace
3620 - 3622	As in sample from 3605 to 3615 feet; some biotite
3622	Chloritic fragments; 30-minute circulation sample
	TD 3623 feet

Fulton County
Swan Creek Township
Section 27

Liberty Petroleum Corp.
#1 Storeholder
Permit No. 49
Sample No. 2341
Elevation (KB) 690 feet

Depth (ft)	
2580 - 2590	Limestone, very light-brownish-gray, medium-brown, lithographic; dolomitized in part
2590 - 2610	No sample
2610 - 2620	Dolomite, very light-brown, microcrystalline (dolosiltite). Pyrite, trace. KNOX DOLOMITE at 2616 feet (GRN)
2620 - 2640	No sample
2640 - 2650	Dolomite as above
2650 - 2660	No sample
2660 - 2700	Dolomite, very light-gray, brown, microcrystalline (dolosiltite) and very finely crystalline. Pyrite, trace
2700 - 2710	Dolomite as above. Sandstone, very light-gray, fine-grained, very glauconitic; trace
2710 - 2740	Dolomite, very light-gray, very light- and light-brown, very finely crystalline, sandy (very fine-grained sand), very slightly glauconitic; grading into sandstone
2740 - 2750	Dolomite as above, very sandy (very fine- and fine-grained); grading into sandstone
2750 - 2760	No sample
2760 - 2780	Dolomite, very light-gray, light-brown, very finely crystalline, very sandy (very fine-grained sand); grading into sandstone
2780 - 2800	Dolomite, very light- to medium-brown, very finely and finely crystalline
2800 - 2810	Dolomite as above, very light gray in part, microcrystalline (dolosiltite) in part
2810 - 2820	Siltstone, light-gray, dolomitic; 90%. Dolomite as above, 10%
2820 - 2830	Siltstone as above, 50%. Dolomite as above, 50%
2830 - 2870	Dolomite, light-brown, microcrystalline (dolosiltite)
2870 - 2910	Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline; silty in part. Pyrite, trace
2910 - 2930	Siltstone, very light-brownish-gray, light-brown, sandy (very fine-grained sand), dolomitic
2930 - 2940	Siltstone as above. Shale, dark-gray and brownish-gray, micaceous, silty; trace
2940 - 2950	Siltstone as above, grading into dolomite. Shale as above, trace
2950 - 2980	Siltstone as above, grading into dolomite; 90%. Shale as above, 10%
2980 - 3000	Sandstone, very light-gray, light-brown, and brownish-gray, very fine- and fine-grained, silty, dolomitic to very dolomitic. Shale as above, heavy trace. KERBEL FORMATION at 3000 feet (gradational contact)
3000 - 3020	Sandstone, very light-gray, fine- to coarse-grained, very slightly glauconitic, probably predominantly coarse-grained, very friable; angular (broken) to rounded and frosted grains
3020 - 3030	Sand, predominantly medium-grained, angular (broken) to rounded and frosted
3030 - 3040	Sandstone, very light-gray, very light-pinkish-gray to brown, very fine- to medium-grained. Shale, dark-brown, greenish-gray; trace
3040 - 3050	Shale, dark-gray to greenish-gray and brownish-gray; 50%. Sandstone, very light-gray to gray-

	ish-brown, very fine- and fine-grained; some medium-grained sand; medium- and coarse-grained glauconite pellets; 50%. EAU CLAIRE FORMATION at 3040 feet
3050 - 3060	Sandstone, pink and very light-gray, very fine- to medium-grained, predominantly fine-grained, very slightly glauconitic. Hematite, pelletal; trace
3060 - 3080	Sandstone as above. Shale, medium-grayish-green; 30% to heavy trace
3080 - 3110	Sandstone, very light- and light-gray, brown, very fine-grained, very slightly glauconitic; 80%. Shale, medium- and dark-gray, brown, greenish-gray, 20%
3110 - 3120	Sandstone as above, glauconitic, very dolomitic; grading into microcrystalline (dolosiltite) dolomite; 80%. Shale as above, 20%
3120 - 3130	Shale, medium-greenish-gray; 70%. Sandstone as above, grading into dolomite; 30%
3130 - 3140	Dolomite, very light-gray, light-brown, light-greenish-gray, microcrystalline (dolosiltite), hematitic, glauconitic, silty; 80%. Shale as above, 20%
3140 - 3150	Dolomite as above. Shale as above, trace
3150 - 3160	Sandstone, light-pinkish-gray, light-greenish-gray, light-brown, very fine-grained, dolomitic, glauconitic, slightly hematitic. Shale as above, heavy trace
3160 - 3180	Sandstone as above. Shale as above, trace
3180 - 3200	Sandstone, very light-gray, light-yellowish-gray to pinkish-gray, very fine- to medium-grained, slightly glauconitic, very friable
3200 - 3250	Sandstone as above, very light-gray, brownish-gray. Shale, dark-gray to greenish-gray and brownish-gray; heavy trace
3250 - 3270	Sandstone, light-pinkish-gray, very light-gray, very fine- to medium-grained, glauconitic. Shale as above, heavy trace
3270 - 3280	Sandstone as above
3280 - 3310	Sandstone, light-pinkish-brown, light-greenish-gray, very fine-grained, glauconitic. Shale, red (hematitic), medium- and dark-greenish-gray, brownish-gray, glauconitic; trace
3310 - 3340	Sandstone as above, very fine and fine grained; 80%. Shale as above, 20%
3340 - 3350	Sand, fine- and medium-grained, angular (predominantly) to rounded and frosted
3350 - 3370	Sandstone, very light-gray to light-brown, very fine- to medium-grained, very slightly glauconitic, very friable
3370 - 3400	Sandstone as above, nonglauconitic. Shale, black; trace
3400 - 3420	Sand, fine- to coarse-grained, angular to rounded and frosted. MT. SIMON SANDSTONE at 3370 feet (top of nonglauconitic sandstone)
3420 - 3440	Sand as above. Shale, black; trace
3440 - 3450	Sand as above
3450 - 3490	Sandstone, very light-gray, pinkish-gray, very fine- to medium-grained, very friable; some coarse-grained sand
3490 - 3530	Sandstone as above, very fine to coarse grained
3530 - 3550	Sandstone, very light-gray, pink, very fine- to coarse-grained, very friable
3550 - 3560	Sandstone as above, very light pink
3560 - 3570	Granite, pink. Amphibole-rich aphanitic basic rock, light- to medium-green. PRECAMBRIAN at 3560 feet
3570 - 3580	Aphanitic rock as above. Rhyolite, dark-red
3580 - 3600	Basic igneous rock, medium- and dark-green, aphanitic
3600 - 3670	No sample
3670 - 3700	Granite, white and pink
	TD 3700 feet

Geauga County
Chardon Township
Lot 1

East Ohio Gas Co. #1 Crile
Permit No. D-1
Sample No. 64
Elevation (G) 1031 feet
C. F. Fettke, 1961, p. 632-633

Depth (ft)	
	Samples above 5850 feet not examined
5850 - 5872	Limestone, light-brownish-gray to medium-brown, fine-grained. Chert, very light-brown; trace. Shale, dark-brown; trace
5872 - 5887	Shale, dark-brown to dark-gray. Limestone as above
5887 - 5915	Shale, medium- and dark-grayish-green and dark-brown to black. Limestone, medium- and dark-brown, lithographic. Dolomite, light-greenish-gray, very fine-grained, silty. Glenwood-Wells Creek
5915 - 5923	Shale, medium- and dark-grayish-green. Sand, fine- and medium-grained, rounded; frosted in part; 50%
5923 - 5931	Dolomite, light-gray and light-brown, very fine- and fine-grained, very finely and finely crystalline. Shale and sand as above, minor. KNOX DOLOMITE at 5925 feet
5931 - 5958	Dolomite, very light-gray and very light-brownish-gray, very finely crystalline, sandy (rounded medium-grained sand). Sand as above, minor
5958 - 5967	Dolomite, very light-grayish-brown to medium-brown, very fine- and fine-grained and very finely and finely crystalline, sandy. Sandstone, white, very fine-grained, siliceous
5967 - 5978	Dolomite, light-grayish-brown, light-gray and yellowish-gray, fine-grained, finely and medium-crystalline, sandy (fine-grained sand). Sandstone as above, trace
5978 - 6034	Dolomite as above, very sandy. Sand, very fine- and fine-grained, subangular and subrounded
6034 - 6039	Sand, fine- and medium-grained, subrounded to rounded; few pieces of dolomitic sandstone
6039 - 6044	No sample
6044 - 6061	Sand and sandstone as above. Dolomite, light-yellowish-gray and light-brownish-gray to brown, very fine- and fine-grained, sandy
6061 - 6110	Sand as above, 70-80% of sample. Dolomite as above
	TD 6110 feet

Guernsey County
Adams Township
Section 15

Lakeshore Pipe Line Co.
#1 Marshall
Permit No. 782
Sample No. 925
Elevation (KB) 1007 feet

Depth (ft)	
7050 - 7060	Sandstone, very light-gray, very fine- and fine-grained, silty, slightly dolomitic; up to 99% shale cavings
7060 - 7075	Sandstone as above, medium grained in part (subrounded and rounded grains). Sand, fine- to coarse-grained; trace
7075 - 7100	Sandstone, white, medium- and coarse-grained, dolomitic; in part glauconitic and light brown from 7080 to 7100 feet
7100 - 7115	Insufficient sample in place stratigraphically for description; more than 99% cavings
7115 - 7120	Sandstone, white, very fine-grained, slightly dolomitic. Siltstone, light-brown, slightly glauconitic(?). More than 95% cavings
7120 - 7125	Dolomite, very light- and light-brown, microcrystalline and very finely crystalline, slight-

ly silty; shale cavings

7125 - 7130 Dolomite as above. Sandstone, very light- and light-brown, very fine- and fine-grained, silty. Cavings

7130 - 7135 Dolomite, very light- and light-brown to grayish-brown, microcrystalline and very finely crystalline, pelletal, glauconitic(?). Dolomite as above. Sandstone as above, very fine- to medium-grained. Cavings

7135 - 7140 Dolomite, light-brown to very light-brownish-gray, very finely crystalline, sandy to very sandy, glauconitic(?); grading into fine-grained sandstone

7140 - 7145 Dolomite, very light-brown to brownish-gray, microcrystalline; slightly sandy in part (very fine-grained sand)

7145 - 7155 Dolomite, very light-gray to brownish-gray, microcrystalline, sandy (very fine-grained sand)

7155 - 7160 Sandstone, very light-gray to pinkish-gray, fine- to coarse-grained, dolomitic to very dolomitic; poorly sorted in part

7160 - 7165 Dolomite, very light-brown to grayish-brown, microcrystalline, sandy (very fine-grained sand)

7165 - 7170 Sandstone, white to very light-brown, fine- to coarse-grained; poorly sorted in part; very dolomitic in part

7170 - 7205 Dolomite, light-brown and light- and medium-grayish-brown, microcrystalline and very finely crystalline; sandy in part; silty in part. Sandstone as above, trace

7205 - 7210 Dolomite, very light-grayish-brown to light-brown, microcrystalline and very finely crystalline; pelletal(?) in part; sandy in part (fine-grained sand)

7210 - 7215 Sandstone, white to light-brown, fine- and medium-grained; dolomitic in part. Dolomite as above, trace

7215 - 7220 Dolomite as above. Sandstone as above, trace

7220 - 7230 Dolomite, very light-yellowish-brown, microcrystalline and very finely crystalline; dense in part from 7225 to 7230 feet

7230 - 7260 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline, very slightly sandy (very fine- and fine-grained sand)

7260 - 7270 Dolomite as above, in part sucrosic and with pinpoint porosity

7270 - 7320 Dolomite, light-brown, very finely crystalline; very slightly sandy as above

7305 - 7310 No samples

7320 - 7325 Siltstone, light-grayish-brown, slightly sandy (very fine-grained), dolomitic; grading into dolomite

7325 - 7340 As in sample from 7320 to 7325 feet and dolomite as in sample from 7270 to 7320 feet

7340 - 7345 Sandstone, light-brown to grayish-brown, very fine-grained, silty, dolomitic

7345 - 7350 Sandstone as above. Dolomite, light- and medium-gray, slightly glauconitic

7350 - 7355 Sandstone as above. Dolomite, very light-yellowish-brown, microcrystalline, slightly sandy (very fine-grained sand)

7355 - 7365 Dolomite as above. Dolomite, light-brown

7365 - 7385 Dolomite, very light-yellowish-brown to light-brown, microcrystalline, very sandy (very fine-grained sand)

7385 - 7395 Dolomite, light-brown to yellowish-brown, dense to very finely crystalline

7395 - 7405 Dolomite as above. Dolomite, very light-yellowish-brown

7405 - 7410 Dolomite as above, sucrosic and medium crystalline in part

7410 - 7420 Dolomite as above, sucrosic, with intercrystalline porosity

7420 - 7425 Dolomite, light- and medium-brown, microcrystalline to medium-crystalline; sucrosic in part

7425 - 7450 Dolomite as above, very light yellowish brown, some pinpoint porosity

7450 - 7475 Dolomite as above, nonsucrosic, mostly microcrystalline

7475 - 7540 Dolomite, very light-yellowish-brown to light-brown, microcrystalline to medium-crystalline; medium grained in part; some intercrystalline porosity from 7495 to 7500 feet

7540 - 7570 Dolomite as above, medium brown in part

7555 - 7560 No samples

7570 - 7600 As above, very sandy in part (very fine-grained sand). CONASAUGA FORMATION at 7570 feet

7600 - 7645 Dolomite, very light-yellowish-brown and yellowish-gray, light- and medium-brown, light-gray, microcrystalline to medium-crystalline; medium-grained in part; sandy to very sandy in part (very fine- to coarse-grained sand); a small portion grading into very slightly glauconitic sandstone

7630 - 7635 No samples

7645 - 7685 Dolomite, light-yellowish-gray and yellowish-brown, microcrystalline to finely crystalline; slightly sandy as above; much shale caving, more than 95% from 7660 to 7690 feet

7685 - 7690 Dolomite as above, very sandy in part (fine- and medium-grained sand)

7690 - 7770 Dolomite, light-yellowish-gray, finely and medium-crystalline, slightly to very sandy (fine- and medium-grained sand); slightly glauconitic in part; some vuggy porosity; some chips with clusters of euhedral dolomite crystals. ROME FORMATION at 7690 feet

7770 - 7775 Dolomite, light-yellowish-gray and light-brown to yellowish-brown, finely crystalline, slightly sandy; some vuggy porosity; some euhedral dolomite crystals

7775 - 7780 Dolomite as above. Dolomite, medium-gray to grayish-brown, microcrystalline, sandy; grading into medium-grained sandstone

7780 - 7790 Dolomite as in sample from 7770 to 7775 feet, sandy

7790 - 7805 Dolomite, light-yellowish-gray (predominantly gray) and light- and medium-brown, microcrystalline to finely crystalline, sandy (fine- and medium-grained sand)

7805 - 7835 Dolomite as above, sublithographic in part

7835 - 7870 Dolomite as above. Sandstone, light-gray, fine-grained; glauconitic to 7840 feet; trace

7870 - 7945 Dolomite, light-yellowish-gray, microcrystalline to finely crystalline, sandy (fine-grained sand)

7945 - 7975 Dolomite, medium-brownish-gray to grayish-brown, dense to microcrystalline, sandy (fine- to medium-grained sand). Dolomite, light-brown, microcrystalline, very sandy (fine- to medium-grained sand); shaly partings

7975 - 7980 Dolomite, light-yellowish-gray and light- and medium-brown, microcrystalline to finely crystalline; sandy as above in part

7980 - 7985 Dolomite as above. Sandstone, medium-gray, fine- to medium-grained; trace

7985 - 8080 Dolomite, light-yellowish-gray, light- and medium-brown, light-brownish-gray, microcrystalline, sandy to very sandy (fine- to coarse-grained, predominantly fine and medium, sand); pelletal in part

7990 - 7995 No samples

8080 - 8085 Dolomite, light-yellowish-gray and very light-yellowish-brown, microcrystalline; sandy to

very sandy in part (fine- and medium-grained sand); 80%. Dolomite, medium- to dark-grayish-brown, microcrystalline and very finely crystalline, pelletal, sandy (very fine- and fine-grained sand); 20%

8085 - 8100 Dolomite as above, pelletal; grading into sandstone in small part. Dolomite, light-yellowish-gray, light-brown, microcrystalline

8100 - 8110 As above, sand in dolomite fine- to coarse-grained (predominantly fine and medium)

8110 - 8125 As above. Sandstone, light-yellowish-gray, fine- and medium-grained, minor. Sandstone, poorly sorted, fine- to coarse-grained; trace

8125 - 8140 Dolomite, medium- and dark-grayish-brown, microcrystalline, pelletal, sandy (fine-grained sand). Sandstone, light-yellowish-gray and light-brown, fine- and medium-grained, slightly dolomitic; minor

8140 - 8155 Dolomite as above. Sandstone as above, trace

8155 - 8175 Dolomite as above, oolitic and very sandy in part. Sandstone as above, heavy trace

8175 - 8200 As above, oolites in part black

8200 - 8240 Dolomite as above. Sandstone as above, 50% to minor

8240 - 8245 As above. Sand, medium and coarse-grained, rounded, loose; heavy trace

8245 - 8265 Sandstone, light-yellowish-gray, fine- to coarse-grained, dolomitic. Dolomite, light- to dark-grayish-brown, microcrystalline, fine- and medium-grained, pelletal, oolitic, sandy; grading into fine- and medium-grained sandstone. Sand as above, heavy trace. MT. SIMON SANDSTONE at 8245 feet

8265 - 8270 Sandstone, light-brownish-gray, fine-grained, slightly dolomitic

8270 - 8285 Sandstone as above, medium grained in part. Sandstone, medium- and dark-grayish-brown, fine- and medium-grained, dolomitic, oolitic and pelletal; trace

8285 - 8305 Sandstone, light-yellowish-gray, light-brownish-gray, fine- to coarse-grained (predominantly fine and medium). Sandstone, oolitic and pelletal as above; trace. Dolomite, light-yellowish-gray and light-brown, microcrystalline, sandy (very fine-grained sand); trace

8305 - 8315 Sandstone, light-yellowish-gray, fine- to coarse-grained (predominantly medium); minor amount light-brownish-gray to gray

8315 - 8330 Sandstone as above. Sandstone, pink, fine-grained; trace

8330 - 8340 As above. Granite gneiss (quartz, orthoclase, biotite); structure not evident. PRECAMBRIAN at 8331 feet

8340 - 8355 As above. Amphibolite (hornblende, plagioclase, quartz), foliation evident; trace

8355 - 8360 Amphibolite and sand cavings

Samples from 8360 to 8602 feet (TD) not examined

Hancock County
Amanda Township
Section 20

Michael T. Cowen #1 Harris
Permit No. 140
Sample No. 1345
Elevation (KB) 823 feet

Depth (ft)

1800 - 1840 Limestone, very light- to medium-brown, lithographic to finely crystalline; dolomitic in part

1840 - 1850 Limestone as above. Shale, medium-green to grayish-green, dolomitic; trace

1850 - 1860 Limestone as above, very light gray in part, silty and pyritic in part. Dolomite, very light-yellowish-brown, finely crystalline. Shale, medium-green, silty, pyritic; minor

1860 - 1870 Shale as above. Dolomite, light-grayish-green, micrograined, silty, argillaceous

1870 - 1880 As above. Siltstone, very light-gray, very slightly glauconitic. Dolomite, light- and medium-brown, finely crystalline; minor. KNOX DOLOMITE at 1880 feet (GRN)

1880 - 1900 Dolomite, very light- to light-brown, very finely and finely crystalline. Sandstone, light-grayish-brown, very fine-grained, dolomitic, glauconitic; trace

1900 - 1910 Dolomite as above. Siltstone, very light-gray and brownish-gray, slightly glauconitic, dolomitic; grading into dolomite, minor

1910 - 1930 Dolomite, very light-grayish-brown to light-brown, very finely and finely crystalline, slightly glauconitic, silty; grading into siltstone, minor

1930 - 1950 Dolomite as above, finely and medium sucrosic in part

1950 - 1960 Dolomite, very light-yellowish-brown to light-brown, very finely and finely crystalline; silty in part

1960 - 1970 Dolomite as above. Siltstone, very light-brownish-gray, slightly glauconitic; heavy trace

1970 - 1990 Dolomite as above. Siltstone as above

1990 - 2030 Dolomite, very light-yellowish-brown to medium-brown, very finely to medium crystalline, slightly glauconitic; sucrosic in part; poor pinpoint and vuggy porosity

2030 - 2040 Dolomite as above, very light- and light-gray, predominantly sucrosic; fair intercrystalline porosity

2040 - 2050 Dolomite, very light-gray and light-yellowish-gray, very finely and finely crystalline

2050 - 2070 Dolomite as above, silty in part

2070 - 2080 Dolomite as above, microcrystalline (dolosiltite) and very finely crystalline

2080 - 2090 Dolomite, very light-gray, brownish-gray and light-brown, microcrystalline (dolosiltite) and very finely crystalline

2090 - 2100 Dolomite as above, sandy (very fine- to coarse-grained sand). KERBEL FORMATION at 2090 feet

2100 - 2120 No sample

2120 - 2130 Dolomite, very light-brown, microcrystalline (dolosiltite), oolitic (very fine- to coarse-grained, grain-supported), sandy (very fine- to coarse-grained sand); grading into predominantly fine-grained sandstone

2130 - 2140 Sandstone, very light-brown, very fine-grained, dolomitic; some medium- and coarse-grained sand

2140 - 2150 Sandstone as above. Sand, coarse grained, rounded and frosted; heavy trace

2150 - 2160 Sandstone as above. Sandstone, light-brown to grayish-brown, very fine-grained, dolomitic, fossiliferous (brachiopods). Sand as above, trace

2160 - 2170 Sandstone as above, grayish brown

2170 - 2180 Sandstone as above. Shale, light-brown, slightly grayish; heavy trace

2180 - 2190 Sandstone as above. Shale as above

2190 - 2200 Sandstone, very light-brownish-gray to light-brown, fine- to coarse-grained, poorly sorted. Shale as above, heavy trace. Sandstone as above, trace

2200 - 2220 Sandstone, very light-grayish-brown, very fine- and fine-grained, fossiliferous, glauconitic; some medium-grained sand. Shale as above, trace. EAU CLAIRE FORMATION at 2200 feet

2220 - 2230 Sandstone, very light-brown to grayish-brown, very fine- and fine-grained, glauconitic, slightly dolomitic

2230 - 2250 Sandstone as above, very glauconitic, micaceous; light-brown to brownish-gray lamina-

tions

2250 - 2280 Shale, medium-grayish-brown and grayish-green, micaceous, slightly glauconitic. Sandstone, light-brown, very fine-grained, slightly micaceous and glauconitic, fossiliferous, dolomitic; grading into dolomite

2280 - 2300 Sandstone, light-brown, very light-brownish-gray, pinkish-gray, very fine-grained, silty, glauconitic, very slightly hematitic, dolomitic; grading into finely and medium-crystalline dolomite. Shale as above, heavy trace

2300 - 2310 Sandstone, light-brown, pinkish-yellow and very light-greenish-gray, very fine-grained, glauconitic, slightly micaceous

2310 - 2320 Sandstone as above. Dolomite, light-brown, bioclastic, hematitic; trace

2320 - 2360 Sandstone, very light- and light-brown, very light- and light-gray, very fine- to coarse-grained, poorly sorted, dolomitic, pelletal oolitic; grading into dolomite, minor. ROME FORMATION tongue

2360 - 2690 No sample

2680 - 2700 Sandstone, pinkish-yellow, very fine- and fine-grained; some medium- and coarse-grained sand. Sand, fine- to coarse-grained, angular (broken?) to rounded and frosted. MT. SIMON SANDSTONE at 2558 feet (GRN)

2700 - 2710 Sandstone as above. Sandstone, light-grayish-brown to brownish-gray, very fine-grained, dolomitic

2710 - 2720 As in sample from 2680 to 2700 feet

2720 - 2730 Sandstone, light-pinkish-yellow, light-brownish-gray to gray, very fine- and fine-grained. Sand, coarse-grained, angular (broken?) to rounded and frosted; heavy trace

2730 - 2740 Sandstone as above. Sand as above, very coarse

2740 - 2750 Sandstone, light-yellowish-brown, very fine- and fine-grained, fossiliferous. Sand, coarse- and very coarse-grained, rounded and frosted

2750 - 2760 Sand, very coarse, rounded and frosted. Sandstone, pinkish-yellow and light-greenish-gray, very fine- and fine-grained; some medium- and coarse-grained sand; argillaceous and silty in part

2760 - 2770 Sand and pebbles, rounded and very coarse

2770 - 2780 Sand, very coarse, rounded and frosted; reddish brown in part. Sandstone, light-grayish-green, poorly sorted, very fine- to coarse-grained, argillaceous; minor

2780 - 2790 Sandstone, light-grayish-green, light-pinkish-gray, colorless, fine- to coarse-grained; poorly sorted in part; arkosic in part

2790 - 2795 Arkose? (red feldspar, chlorite). Sandstone as above, heavy trace

2797 Arkose. Quartz gneiss or schist. Circulation sample. PRECAMBRIAN at 2795 feet?

Hancock County
Jackson Township
Section 6

Kin-Ark Oil Co. #1 Drummelsmith
Permit No. 152
Sample No. 1952
Elevation (KB) 809 feet

Depth (ft)

1800 - 1820 Dolomite, medium-brown, very finely and finely crystalline; dark-brown shale partings

1820 - 1830 Dolomite, very light-brown to yellowish-brown, finely crystalline, very slightly sandy (very fine-grained sand). Sandstone, light-green, very fine- to medium-grained, dolomitic; trace. KNOX DOLOMITE at 1820 feet (GRN)

1830 - 1840 Dolomite, light-brown, very finely crystalline; poor vuggy porosity

1840 - 1850 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline

1850 - 1870 Dolomite, light-yellowish-brown, finely and medium-crystalline; fair pinpoint porosity

1870 - 1880 Dolomite as above, pyritic in part, pelletal in part (fine-grained, grain-supported). Siltstone, medium-brownish-gray, glauconitic, dolomitic; light-green argillaceous laminations; trace

1880 - 1900 Dolomite, light-yellowish-brown and grayish-brown to medium-brown, finely and medium-crystalline; pelletal as above in part. Dolomite, very light-grayish-green, microcrystalline (dolosiltite) and very finely crystalline; trace. Siltstone as above, trace

1900 - 1920 Dolomite, light-yellowish-brown, finely crystalline; pelletal in part. Shale and siltstone as above, trace

1920 - 1930 Dolomite, light-yellowish-brown and brown, very finely and finely crystalline; argillaceous in part. Shale, light-brown to grayish-brown, silty, very dolomitic; trace

1930 - 1940 Siltstone, very light-gray, dolomitic, slightly glauconitic. Dolomite, very light-brown and gray, finely crystalline, very silty, slightly glauconitic; heavy trace

1940 - 1950 Dolomite, light-brown, very finely and finely crystalline. Dolomite and siltstone as above, trace

1950 - 1970 Dolomite, light-brown, microcrystalline (dolosiltite) to finely crystalline

1970 - 1980 Dolomite as above, poor vuggy porosity, light-green shale laminations. Siltstone and very silty dolomite, very light-gray, very slightly glauconitic; trace

1980 - 1990 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline, silty dolomite as above; trace

1990 - 2000 Dolomite, light-brown as above. Siltstone, very light-gray, slightly glauconitic; trace

2000 - 2010 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline

2010 - 2060 Dolomite, very light-gray, very light- and light-brown, very finely and finely crystalline; pyritic in part. Calcite crystals, heavy trace

2060 - 2070 Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline

2070 - 2080 Dolomite, very light- and light-grayish-brown and brown, microcrystalline (dolosiltite) to finely crystalline

2080 - 2090 Dolomite as above. Sandstone, very light-brownish-gray, very fine-grained, dolomitic; laminated with light-green argillaceous dolomite

2090 - 2110 Dolomite, very light-brownish-gray to grayish-brown, very finely crystalline

2110 - 2120 Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (fine- and medium-grained sand); brecciated fragments of slightly sandy microcrystalline (dolomicrite) very light-gray dolomite. Sandstone, very light-gray, very fine- and medium-grained, dolomitic; trace. KERBEL FORMATION at 2115 feet

2120 - 2130 Sandstone, very light-gray, very fine- to coarse-grained; slightly glauconitic in part

2130 - 2140 Sandstone as above, grading into pelletal or oolitic (medium- and coarse-grained, grain-supported) dolomite

2140 - 2150 Sandstone, very light-brownish-gray, very fine- to coarse-grained, predominantly very fine-grained; grading into dolomite as above

2150 - 2160 Sandstone, very light-brown and gray, very fine-grained, dolomitic. Dolomite, very light- and light-brown, very finely and finely crystalline; minor

2160 - 2170 Dolomite, light- and medium-brown, very finely

and finely crystalline, slightly sandy to sandy (very fine- to medium-grained sand). Sandstone, very light-gray and brownish-gray, very fine- to medium-grained, dolomitic

2170 - 2180 Sandstone, very light- and light-brown, light- and medium-grayish-brown, very fine- and fine-grained; some medium-grained sand

2180 - 2190 Sandstone, very light-gray to light-brownish-gray, very fine- and fine-grained, slightly dolomitic

2190 - 2200 Sandstone as above, light brownish gray to grayish brown

2200 - 2210 Sandstone, light-brownish-gray to grayish-brown, very fine- and fine-grained, very slightly glauconitic; some medium-grained sand; very dolomitic in part (brown dolomite crystals as grains in sandstone). Shale, medium-grayish-brown to grayish-green, micaceous; minor

2210 - 2220 Sandstone, very light-brown and grayish-brown, very fine- and fine-grained, glauconitic; much medium-grained sand; very pyritic in part. EAU CLAIRE FORMATION at 2210 feet

2220 - 2230 Sandstone as above, with medium-brown shale laminations

2230 - 2240 Sandstone as above, micaceous in part

2240 - 2250 Sandstone, light-brown, very fine-grained, glauconitic; very dolomitic in part; micaceous in part; laminations of light-brown silty shale

2250 - 2260 Dolomite, medium-brown, microcrystalline (dolomicrite). Sandstone, light- and medium-brown, very fine-grained, dolomitic, slightly glauconitic. Shale, medium-grayish-brown and gray, slightly glauconitic. Pyrite, heavy trace

2260 - 2270 Shale, light-brownish-gray. Sandstone as above, very dolomitic, minor

2270 - 2280 Sandstone, light- and medium-brown and grayish-brown, very fine-grained, slightly glauconitic, silty, dolomitic; grading into dolomite. Shale as above, heavy trace

2280 - 2290 Siltstone, light-brownish-gray, greenish-gray, sandy (very fine- and fine-grained sand), very glauconitic, dolomitic

2290 - 2310 Siltstone, light-brownish-gray, very glauconitic, sandy as above; laminations of silty argillaceous microcrystalline light-grayish-brown dolomite

2310 - 2330 Sandstone, very light-brown and gray, fine- and medium-grained (predominantly fine), dolomitic; few coarse grains; grading in small part into dolomite

2330 - 2350 Sandstone, light-gray, very light- and light-brown, fine- to coarse-grained

2350 - 2370 Sandstone as above, light and medium brown, predominantly medium grained; few dolomite pellets and oolites

2370 - 2380 Sandstone, very light- and light-brown, poorly sorted, fine- to coarse-grained, dolomitic; friable in part

2380 - 2400 Sandstone, very light-brownish-gray, very fine-grained

2400 - 2410 Sandstone as above, glauconitic. Siltstone, medium-brown, sandy (very fine-grained sand), slightly glauconitic. Shale, medium- and dark-brownish-gray

2410 - 2430 Sandstone, very light- and light-brown, very fine-grained, silty, glauconitic; laminations of medium-greenish-gray shale

2430 - 2440 Sandstone as above, very glauconitic, fossiliferous. Shale, medium-gray to brownish-gray and greenish-gray, micaceous; heavy trace

2440 - 2450 Sandstone, very light- and light-brown, very fine-grained, silty, glauconitic, dolomitic; grading into dolomite. Shale as above, trace

2450 - 2470 Sandstone as above, very glauconitic, fossiliferous

2470 - 2480 Sandstone as above, fine grained in part

2480 - 2500 Sandstone, very light-brownish-gray to grayish-brown, very fine- and fine-grained, slightly dolomitic; some medium-grained sand

2500 - 2510 Sandstone as above, medium and coarse grained in part. Sandstone, light-grayish-brown, very fine- and fine-grained, silty, dolomitic; very glauconitic in part. Dolomite, medium-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- to coarse-grained sand); trace

2510 - 2520 Sandstone, very light-brown, light- and medium-gray, very fine- and fine-grained, fossiliferous; very glauconitic in part; laminations of medium-brownish-gray shale

2520 - 2550 As above, very light-brown sandstone medium grained in part

2550 - 2560 Sandstone, very light-brownish-gray, fine-grained; some medium- and coarse-grained sand. Sandstone, light- and medium-gray, very glauconitic; trace. MT. SIMON SANDSTONE at 2550 feet

2560 - 2590 Sandstone as above, very light brownish gray

2590 - 2600 Sandstone as above. Sandstone, light- and medium-brown, fine- to coarse-grained, dolomitic to very dolomitic

2600 - 2630 Sandstone, very light-brownish-gray, fine- and medium-grained (predominantly fine)

2630 - 2650 Sandstone, light-pinkish-yellow, fine-grained; some medium- and coarse-grained sand

2650 - 2660 Sandstone as above. Sandstone as in sample from 2590 to 2600 feet; dolomite oolites; minor

2660 - 2680 Sandstone, light-pinkish-yellow, light-brownish-gray, fine-grained; some medium- and coarse-grained sand

2680 - 2690 Sandstone as above, light pinkish yellow. Sandstone as above, light brownish gray; trace

2690 - 2720 Sandstone, light-pinkish-yellow, fine-grained. Sand, medium- and coarse-grained; minor

2720 - 2740 Sandstone, light-pinkish-yellow, very light-brownish-gray, colorless, fine-grained. Sand, medium- and coarse-grained; minor

2740 - 2760 As above, predominantly sand

2760 - 2780 Sand, medium- and coarse-grained. Sandstone as above, heavy trace

2780 - 2790 Sandstone, pinkish-yellow, pink and greenish-gray, conglomeratic, friable

2790 - 2807 Sandstone as above, arkosic. Quartzite. PRECAMBRIAN at 2795 feet

TD 2805 feet

Hancock County
Union Township
Section 24

Frank Dever #1 Frazier
Permit No. 139
Sample No. 1266
Elevation (DF) 824 feet

Depth (ft)

1890 - 1904 Limestone, light- and medium-gray, medium-brown, lithographic to fine-grained. Dolomite, medium-brown, finely and medium-crystalline

1904 - 1912 Dolomite as above, trace. Dolomite, light-yellowish-gray, microcrystalline. Shale, light- and medium-green; trace. KNOX DOLOMITE at 1895 feet (GRN)

1912 - 1929 Dolomite, light-yellowish-gray, finely and medium-crystalline

1929 - 1937 Dolomite, light-brown, microcrystalline (dolosiltite) to finely crystalline; few fine- and medium-grained pellets

1937 - 1947 Dolomite as above, light and medium brown

1947 - 1959 Dolomite, very light- and light-brown, light-grayish-brown, microcrystalline (dolosiltite) to finely crystalline

1959 - 1974 Dolomite as above, very light to medium brown

1974 - 1987 Dolomite, light- and medium-brown, finely crystalline

1987 - 1995 Dolomite, light-yellowish-gray to very light-brown, microcrystalline (dolosiltite) and very finely crystalline. Dolomite as above, trace

1995 - 2004 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline

2004 - 2032 Dolomite, light-yellowish-gray, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline

2032 - 2062 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite) to finely crystalline

2062 - 2072 Dolomite as above, microcrystalline (dolosiltite)

2072 - 2086 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline

2086 - 2111 Dolomite as above, very light to medium brown

2111 - 2113 Dolomite, very light- and light-brown and light-yellowish-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (angular very fine- and fine-grained sand)

2113 - 2124 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline

2124 - 2150 Dolomite as above, microcrystalline (dolosiltite)

2150 - 2172 Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline

2172 - 2182 Dolomite, very light- and light-brown, very finely and finely crystalline

2182 - 2190 Dolomite, light- and medium-brown, microcrystalline (dolosiltite)

2190 - 2196 Dolomite as above, microcrystalline (dolosiltite) to finely crystalline

2196 - 2213 Dolomite, light-yellowish-gray, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline

2213 - 2223 Dolomite as above, finely crystalline, medium and coarsely sucrosic in part. Pyrite, trace

2223 - 2232 Dolomite, light-yellowish-gray to very light-grayish-brown, finely and medium-crystalline

2232 - 2241 Dolomite as above, microcrystalline (dolosiltite) to finely crystalline, very slightly glauconitic

2241 - 2247 Dolomite, very light-grayish-brown, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline, slightly sandy (angular to rounded and frosted fine- and medium-grained sand)

2247 - 2255 Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite)

2255 - 2259 Dolomite, very light-grayish-brown, very light- and light-brown, microcrystalline (dolosiltite), slightly sandy (angular to rounded and frosted fine- and medium-grained sand)

2259 - 2289 Dolomite, very light-grayish-brown, very light-brown, microcrystalline (dolosiltite)

2289 - 2297 Dolomite, very light-gray and light-yellowish-gray, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand)

2297 - 2307 Dolomite, very light-gray and brownish-gray, microcrystalline (dolomicrite and dolosiltite), sandy (fine- to coarse-grained sand). KERBEL FORMATION at 2297 feet

2307 - 2314 Dolomite as above, grading into predominantly fine-grained sandstone

2314 - 2357 No sample

2357 - 2370 Sandstone, very light- and light-grayish-brown, very fine- and fine-grained, dolomitic, very slightly glauconitic

2370 - 2382 Sandstone as above, poorly sorted, very fine to coarse grained

2382 - 2387 Sandstone as above, very light-grayish-brown to brownish-gray, very fine- and fine-grained; some medium- and coarse-grained sand

2387 - 2395 Sandstone, very light- and light-grayish-brown, very fine- and fine-grained, very slightly glauconitic; some medium- and coarse-grained sand

2395 - 3407 Sandstone, very light-brownish-gray, very fine- and fine-grained, dolomitic, glauconitic. Dolomite, light-gray, bioclastic and fossiliferous, glauconitic, sandy; grading into fine- and medium-grained sandstone. EAU CLAIRE FORMATION at 2395 feet

2407 - 2415 Sandstone, very light- and light-gray, light-brownish-gray, very fine- to medium-grained, glauconitic. Shale, medium-gray and greenish-gray, micaceous; heavy trace

2415 - 2420 Sandstone as above, fine-grained portion very light yellowish brown in part

2420 - 2426 Sandstone, light-yellowish-gray, pinkish-gray, grayish-brown, very fine- and fine-grained, glauconitic, slightly dolomitic, fossiliferous

2426 - 2436 Sandstone as above. Shale, medium-gray and greenish-gray, micaceous; heavy trace. Dolomite, light-brown, bioclastic, slightly glauconitic; trace

2436 - 2451 Dolomite, very light- to medium-brown and grayish-brown, bioclastic, glauconitic to very glauconitic, silty, sandy; hematitic in part; grading into very fine-grained sandstone. Sandstone, pinkish-yellow and light-gray, very fine-grained, glauconitic; heavy trace

2451 - 2455 Dolomite, very light- to medium-gray and brownish-gray, microcrystalline (dolosiltite), silty, slightly glauconitic. Shale, medium-gray to greenish-gray; minor

2455 - 2463 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), bioclastic in part, very silty. Shale as above

2463 - 2472 Shale as above. Dolomite as above, minor

2472 - 2479 Shale as above. Dolomite, very light-gray, light- and medium-brown and grayish-brown, microcrystalline (dolosiltite) to medium-crystalline, very silty; bioclastic in part

2479 - 2493 Dolomite as above, slightly to very glauconitic. Shale as above, heavy trace

2493 - 2501 Sandstone, very light-gray, light-pinkish-yellow, light-brown, very fine-grained, glauconitic, dolomitic; grading in minor amount into dolomite. Shale, light- and medium-gray and greenish-gray, micaceous; heavy trace

2501 - 2516 Sandstone, very light-brownish-gray and light-pinkish-yellow, very fine- and fine-grained, glauconitic; laminations of light- and medium-gray to greenish-gray shale

2516 - 2526 Sandstone, very light-brown, fine-grained, slightly glauconitic, fossiliferous; few medium and coarse grains

2526 - 2541 Sandstone, very light-grayish-brown, fine- to coarse-grained, poorly sorted, dolomitic; dolomite oolites or rimmed pellets. ROME FORMATION tongue

2541 - 2562 Sand, fine- to coarse (predominantly coarse), subrounded and rounded and frosted. Sandstone, light-pinkish-yellow, poorly sorted; minor

2562 - 2585 Sandstone, very light-brown, very fine- and fine-grained, dolomitic; some medium- and coarse-grained sand

2585 - 2594 Sandstone, very light-brown. Sand, fine-grained

2594 - 2604 Sandstone, very light- and light-gray and brown, fine-grained. Siltstone, light- and medium-gray, sandy, dolomitic; heavy trace. Shale, medium-gray and greenish-gray; heavy trace

2604 - 2615	Sandstone, light-gray, greenish-gray, brown, pinkish-yellow, very fine- and fine-grained, glauconitic; some medium-grained sand. Shale as above, heavy trace
2615 - 2632	Sandstone as above, predominantly pinkish yellow. Shale as above, trace
2632 - 2642	Sandstone, very light-gray to brownish-gray, very fine- and fine-grained; some medium- and coarse-grained sand
2642 - 2663	Sandstone, light-pinkish-yellow, light-brown, very fine- and fine-grained, glauconitic. Shale, light- and medium-gray to greenish-gray, dark-reddish-brown, dolomitic, silty, glauconitic; grading into greenish-gray siltstone
2663 - 2669	Sandstone, light-pinkish-yellow, light-greenish-gray, very fine- and fine-grained, glauconitic; laminations of greenish-gray shale
2669 - 2691	Sandstone, light-greenish-gray and pinkish-gray, very fine-grained, very glauconitic; laminations of greenish-gray and reddish-brown shale
2691 - 2700	Sandstone, very light- and light-gray, very fine- and fine-grained; some medium-grained sand; glauconitic in part. Shale, medium-gray to greenish-gray, very silty; heavy trace
2700 - 2715	Sandstone, very light-brown and pinkish-brown, fine- and medium-grained; very dolomitic in part. MT. SIMON SANDSTONE at 2700 feet
2715 - 2730	Sandstone, fine- and medium-grained
2730 - 2748	Sand as above. Sandstone, very light-grayish-brown, very fine-grained; minor
2748 - 2758	Sandstone, very light-brownish-gray to gray, fine-grained, dolomitic. Sand as above, heavy trace
2758 - 2773	Sandstone, very light- and light-brownish-gray, very fine- and fine-grained. Sand, fine- to coarse-grained. Siltstone, light- and medium-brown, dolomitic, sandy (very fine- and fine-grained sand); heavy trace
2773 - 2786	As above, loose sand predominantly coarse grained
2786 - 2793	Sand, fine- and medium-grained; some coarse-grained. Sandstone, very light-brownish-gray, very fine- and fine-grained; minor
2793 - 2805	Sand, medium- and coarse-grained. Sandstone, light-pinkish-yellow, fine-grained; some medium-grained sand; minor
2805 - 2823	Sand, fine- to coarse-grained. Sandstone, very light-brownish-gray to pinkish-gray, fine-grained
2823 - 2848	Sandstone, light-pinkish-gray, light-gray and greenish-gray, very fine- and fine-grained, glauconitic, fossiliferous; silty in part. Shale, light- and medium-gray to greenish-gray; heavy trace. EAU CLAIRE lithology (misplaced sample?)
2848 - 2869	Sandstone, light-pinkish-gray to very light-brownish-gray, fine-grained. Sand, fine- to coarse-grained
2869 - 2899	Sand as above. Sandstone as above, trace
2899 - 2922	Sand, medium-grained. Sandstone, light-pinkish-yellow, very fine- and fine-grained; minor
2922 - 2928	Sand, fine- to coarse-grained
2928 - 2940	Sand, coarse-grained
2940 - 2960	Sand, medium- and coarse-grained
2960 - 2975	Sand and pebbles, conglomeratic. Sandstone, dark-red, poorly sorted, arkosic; trace. Shale, red, hematitic; trace
2975 - 3002	As above. Sandstone as above, heavy trace
3002 - 3017	Sand, fine- to coarse-grained. Quartzite, pinkish-brown. PRECAMBRIAN at 3008 feet?
	TD 3017 feet

Hardin County
Jackson Township
Section 30

Norman W. Edmund #1 Jones
Permit No. 74
Sample No. 1015
Elevation (KB) 941 feet

Depth (ft)	
1750 - 1770	Limestone, light- and medium-brown, lithographic
1770 - 1780	Shale, dark-gray to greenish-gray, pyritic. Limestone as above, trace
1780 - 1790	Shale as above
1790 - 1800	Limestone as above. Shale as above, minor
1800 - 1820	No sample
	Samples from 1820 to 1990 feet consist of 99.9% shale cavings
1820 - 1850	Dolomite, light-brown, very finely crystalline. KNOX DOLOMITE at 1801 feet (GRN)
1850 - 1870	Dolomite, very light- and light-brown, very finely and finely crystalline
1870 - 1990	Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline
1990 - 2000	Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline
2000 - 2010	Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline
2010 - 2030	Dolomite as above, very light and light brown
2030 - 2080	Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite) and very finely crystalline; very fine sample
2080 - 2110	As above, slightly sandy (broken fine-grained sand); very fine sample
2110 - 2120	Dolomite, very light-gray, very sandy; very fine sample
2120 - 2150	Dolomite, very light-gray, microcrystalline (dolomicrite and dolosiltite), sandy (fine-grained sand); cavings
2150 - 2160	Dolomite, very light-brown, microcrystalline (dolosiltite), very sandy (fine- and medium-grained sand). KERBEL FORMATION at 2150 feet
2160 - 2180	Sandstone, very light-brown, fine-grained, dolomitic; some medium-grained sand
2180 - 2200	Sandstone as above, very friable. Dolomite, medium-brown, microcrystalline (dolosiltite), silty, sandy (very fine- and fine-grained sand)
2200 - 2220	Sandstone, light-brown to brownish-gray, very fine- and fine-grained, very dolomitic
2220 - 2230	Sandstone, light-brownish-gray, very fine- and fine-grained, dolomitic, slightly glauconitic. EAU CLAIRE FORMATION at 2220 feet
2230 - 2240	Sandstone, light-brownish-gray and pinkish-gray, very fine-grained, silty, glauconitic
2240 - 2260	Sandstone as above, very slightly glauconitic. Shale, medium-gray to greenish-gray
2260 - 2280	Sandstone, very light- and light-pinkish-gray and pinkish-yellow, very fine-grained, glauconitic. Shale as above, heavy trace to trace
2280 - 2300	Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite); very fine and fine grained in part. Shale, dark-brown; heavy trace. Sandstone as above, trace
2300 - 2310	Dolomite as above. Siltstone, light-gray, glauconitic, dolomitic. EAU CLAIRE and ROME FORMATIONS intertonguing in this well
2310 - 2330	Dolomite as above. Siltstone and very fine-grained sandstone, light- and medium-gray to brownish-gray, glauconitic. Shale, reddish-brown, glauconitic; trace
2330 - 2340	Sandstone, light-pinkish-brown, light-brown and gray, very fine-grained, glauconitic

2340 - 2350	Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (fine- and medium-grained sand). Sandstone as above, minor
2350 - 2400	Dolomite as above, sandy; grading in minor amount into sandstone
2400 - 2410	Dolomite as above. Sandstone as above
2410 - 2440	Sand, fine- and medium-grained. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), sandy to very sandy
2440 - 2460	Sandstone, light-brown, pinkish-brown, very fine- and fine-grained. Dolomite as above, heavy trace
2460 - 2470	As above, sandstone very slightly glauconitic
2470 - 2500	Sandstone, very fine-grained. Siltstone, light-gray, pinkish-yellow, brownish-gray, glauconitic
2500 - 2530	As above, some fine-grained sand
2530 - 2550	Sandstone and siltstone as above. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), silty, sandy (very fine-grained sand)
2550 - 2560	Sand, fine- and medium-grained. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand); minor
2560 - 2570	Sand, fine- to coarse-grained (predominantly medium). Sandstone, pinkish-gray, very fine- and fine-grained, slightly glauconitic. Dolomite as above, minor. Cavings
2570 - 2590	As above, predominantly dolomite
2590 - 2600	Sandstone, light-pinkish-yellow, very fine- and fine-grained, very slightly glauconitic. Dolomite, light-gray to medium-brown, microcrystalline (dolosiltite), pelletal, sandy (very fine- to medium-grained sand). Dolomite, light-gray, microcrystalline (dolosiltite), very sandy; grading into sandstone (very fine- to medium-grained). Cavings
2600 - 2630	As above, predominantly light-pinkish-yellow to very light-brown sandstone. MT. SIMON SANDSTONE at 2590 feet (very gradational contact)
2630 - 2640	Sand, fine- to coarse-grained. Sandstone, light-pinkish-yellow, very fine- and fine-grained, very slightly glauconitic. Dolomite, light-gray and medium-brown, microcrystalline (dolosiltite), pelletal, sandy to very sandy. Cavings
2640 - 2650	Sandstone, light-brown to yellowish-gray, very fine- and fine-grained; cavings
2650 - 2690	Sandstone as above, some medium-grained sand. Dolomite, light-gray and brown, microcrystalline, pelletal, sandy; grading into sandstone. Cavings
2690 - 2720	Sandstone as above. Dolomite as above, trace. Cavings
2720 - 2730	Sandstone, light-gray, pinkish-yellow, brownish-gray, fine- and medium-grained; argillaceous in part
2730 - 2800	Sandstone as above, fine- to coarse-grained (predominantly fine)
2800 - 2810	Sandstone as above, much coarse-grained sand
2810 - 2820	Sand, coarse-grained. Sandstone, light-pinkish-yellow, very light-gray, fine- and medium-grained; minor
2820 - 2835	As above. Shale, dark-green, chloritic, micaceous (reddish-brown mica); heavy trace. PRECAMBRIAN at 2840 feet (est.)

Harrison County
Green Township
Section 28S

Sanford E. McCormick #1
Birney
Permit No. 103
Sample No. 2287
Elevation (KB) 1127 feet

Depth (ft)	
9430 - 9450	Limestone, dark-grayish-brown, lithographic (micrite), fossiliferous; numerous silt-sized dolomite crystals. Shale, dark-grayish-brown, slightly calcareous, minor to trace
9450 - 9460	As above. Siltstone, light-brown to grayish-brown, siliceous; trace. Chert, light-brown; trace
9460 - 9470	Limestone as above. Siltstone as above, trace. Chert, black; trace
9470 - 9490	Limestone, light- to medium-brown, lithographic (micrite), fossiliferous; in part with dolomite crystals as in sample from 9430 to 9450 feet. Limestone, light- to medium-brown, microcrystalline (calcisiltite), dolomitic; minor. Siltstone as above, trace. Chert, black; trace from 9480 to 9490 feet
9490 - 9500	Limestone as above, light to medium brownish gray in part. Limestone as above, calcisiltite. Siltstone, light-green, argillaceous; trace
9500 - 9510	No samples
9510 - 9520	Limestone, medium- to dark-brown, lithographic
9520 - 9530	Minute amount, very fine in size, misplaced
9530 - 9550	Dolomite, light-brown, micrograined (dolomicrite and dolosiltite), slightly argillaceous and silty. Limestone as above, minor. Chert, very dark-brown; trace. Shale, dark-grayish-brown, trace. Wells Creek Dolomite
9550 - 9560	Dolomite as above. Dolomite, dark-brown, very argillaceous. Chert, as above, trace. Pyrite, trace
9560 - 9570	No samples
9570 - 9580	Shale, medium-gray to dark-brown, dolomitic to very dolomitic; silty in part; grading into dolomite
9580 - 9590	As above. Sand, very fine- to fine-grained, rounded; trace. Dolomite, very light-gray, microcrystalline (dolomicrite), slightly glauconitic; trace
9590 - 9600	As in sample from 9570 to 9580 feet
9600 - 9610	No samples
9610 - 9620	As in samples from 9570 to 9580 feet
9620 - 9630	Dolomite, light- and medium-brownish-gray, microcrystalline (dolomicrite), silty; in part sandy (very fine- to coarse-grained sand)
9630 - 9640	Sand, fine- to coarse-grained (predominantly medium), subangular and subrounded; frosted in part. Dolomite as above, argillaceous in part. Sandstone, colorless and light-gray and brownish-gray, fine- to coarse-grained, siliceous; trace
9640 - 9650	As above, predominantly very fine- and fine-grained sandstone
9650 - 9660	Sand as in sample from 9630 to 9640 feet. Sandstone, white and light-gray and brownish-gray, very fine- and fine-grained
9660 - 9670	Dolomite, light-grayish-brown, microcrystalline (dolosiltite), very slightly silty. Sand and sandstone as above, trace. KNOX DOLOMITE at 9647 feet (GRN)
9670 - 9680	As above. Dolomite, in part sandy to very sandy (predominantly rounded medium-grained sand)
9680 - 9690	Dolomite as above, slightly sandy, finely crystalline in part. Chert, white, light-gray and silty, slightly argillaceous

light-brown; sandy in part; few pellets
9690 - 9700 Dolomite as above, mostly dolosiltite. Chert as above, trace
9700 - 9720 Dolomite, very light-grayish-brown and gray, microcrystalline (dolomicrite). Dolomite, very light- and light-gray, very finely to medium-crystalline; cherty matrix; sandy in part (very fine- to medium-grained sand). Chert, light-gray; trace
9720 - 9730 Dolomite as above. Chert, light-gray and white; heavy trace
9730 - 9740 Dolomite as in sample from 9700 to 9720 feet, light gray and light brown. Chert, white, translucent; heavy trace
9740 - 9750 Dolomite, very light- and medium-brown, light-medium-gray, as above, cherty matrix. Shale, medium-gray, waxy-looking; trace
9750 - 9770 Dolomite, very light-grayish-brown, very finely to medium-crystalline; cherty as above (very fine samples to 9760 feet)
9770 - 9780 Dolomite as above, very light-grayish-brown and medium-brown. Dolomite, light-brown, slightly grayish, microcrystalline (dolomicrite and dolosiltite); minor. Chert, very light-gray; pinkish in part; pseudomorphs after calcite or dolomite; heavy trace
9780 - 9790 As above, chert containing scattered pellets
9790 - 9810 Dolomite as above, trace, nonpelletal
9810 - 9840 Dolomite as above, in part with very cherty matrix. Sand, medium- and coarse-grained, rounded and frosted; trace
9840 - 9850 Dolomite, very light-brown, very finely crystalline; sandy in part (fine- to coarse-grained sand). Dolomite, light- and medium-brownish-gray, microcrystalline (dolosiltite), pyritic; trace
9850 - 9860 As above, very light-brown dolomite in large part dolomicrite
9860 - 9870 As in sample from 9840 to 9850 feet. Chert, white; dolomite crystals; trace
9870 - 9880 Dolomite, very light-brown to medium-grayish-brown, microcrystalline (dolomicrite and dolosiltite). Chert, white; heavy trace
9880 - 9890 Dolomite as above. Chert, very light-gray; trace
9890 - 9900 Dolomite, very light-grayish-brown to medium-brownish-gray, microcrystalline (dolomicrite and dolosiltite). Sandstone, colorless to white, fine- and medium-grained, siliceous; trace
9900 - 9910 Dolomite as above, very finely crystalline in part, slightly sandy (fine-grained sand). Sandstone as above, trace
9910 - 9930 As above. Chert, very light-gray; trace
9930 - 9950 As above, much chert in matrix of dolomite. Chert, recrystallized; heavy trace
9950 - 9960 Dolomite as above. Chert, milky-white, very light-gray; recrystallized in part (colorless)
9960 - 9970 Dolomite, very light- and light-brown, very finely crystalline; very cherty matrix in part. Pyrite and chert, white, colorless; trace
9970 - 9980 No samples
9980 - 9990 Dolomite, very light-brown to medium-brownish-gray, microcrystalline (dolosiltite) and very finely crystalline. Chert, very light-gray. Pyrite, trace
9990 - 10,010 Dolomite as above, chert in matrix. Chert, very light-gray, brown, and white; trace
10,010 - 10,020 Dolomite as above. Chert as above, heavy trace
10,020 - 10,060 Limestone and shale cavings. Predominant lithology other than cavings: dolomite, very light- to medium-grayish-brown and brownish-gray, very finely crystalline,
10,060 - 10,080 Dolomite as above, sucrosic in part
10,080 - 10,120 As above. Quartz, colorless (recrystallized chert?). Chert, medium-brown; trace
10,120 - 10,140 Dolomite, light- and medium-brown, finely and medium-crystalline
10,140 - 10,150 Dolomite as above, slightly sandy (rounded and frosted medium-grained sand); few pellets and oolites
10,150 - 10,170 Dolomite as above, cavings. Sandstone, white, colorless, very light-brown, siliceous, fine- to coarse-grained; minor rounded and frosted grains. ROSE RUN sandstone at 10,133 feet (GRN)
10,170 - 10,180 Sandstone as above, some with cherty matrix. Dolomite, very light- to dark-brown, very finely crystalline and microcrystalline (dolosiltite), siliceous. Chert, white and very light-gray, sandy; probably oolitic in part; heavy trace
TD 10,180 feet

Highland County
Fairfield Township
2 miles north of Leesburg

Kewanee Oil Co. #1 Pavey
Permit No. 1
Sample No. 822
Elevation (KB) 1043 feet

Depth (ft)
1700 - 1715 Limestone, very light-gray and light- and medium-brown, lithographic. Limestone, medium-gray, micrograined, argillaceous; trace
1715 - 1725 As above. Dolomite, light-brown, very finely sucrosic; heavy trace
1725 - 1755 Dolomite as above. Limestone as above, minor
1755 - 1760 As above. Shale, light-green to grayish-green; trace
1760 - 1780 Limestone as above. Dolomite as above, minor. Shale, light- and medium-green; minor
1780 - 1795 As above, shale sandy (very fine-grained sand) in part. Siltstone, very light-gray and light-greenish-gray, sandy (very fine-grained sand); trace
1795 - 1800 Dolomite, light-brown, micrograined, silty. Limestone, shale, dolomite, siltstone as above, minor
1800 - 1805 Shale, light- and medium-green to greenish-gray. Limestone, dolomite, siltstone as above, minor. Dolomite, light-brown, microsucrosic to very finely sucrosic; heavy trace. KNOX DOLOMITE at 1803 feet (GRN)
1805 - 1810 As above, predominantly sucrosic dolomite
1810 - 1820 Dolomite, light-brown, microcrystalline (dolosiltite); very finely sucrosic in part
1820 - 1825 Dolomite as above, light gray in part
1825 - 1830 Dolomite as above, some chert in matrix. Chert, white; with very fine dolomite crystals; trace
1830 - 1835 Dolomite, light-gray and light-brown, microcrystalline (dolosiltite), very finely sucrosic. Dolomite, white, microcrystalline (dolosiltite), silty. Sandstone, very light-gray, very fine- to medium-grained (rounded and frosted grains in part), siliceous; trace
1835 - 1840 Sandstone as above. Dolomite as above. Dolomite, light-brown, finely and medium-crystalline. ROSE RUN sandstone from 1834 to 1838 feet?
1840 - 1845 Dolomite, very light- and light-brown and very light-gray, microcrystalline (dolosiltite), slightly glauconitic, sandy (rounded and frosted fine- and medium-grained sand). Sandstone as above, trace

1845 - 1850 Dolomite as above. Chert, very light-gray and brown; recrystallized in part; minor
1850 - 1855 Dolomite as above, sandy. Chert as above, minor
1855 - 1860 Dolomite, very light- and light-gray and brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand as above); microsucrosic in part. Chert as above, trace. Shale, medium-grayish-green, sandy as dolomite; trace
1860 - 1865 Dolomite as above
1865 - 1875 Dolomite, light-brown, microcrystalline and very finely crystalline, sandy (fine-grained sand); very finely sucrosic in part. Sandstone as above, trace
1875 - 1885 Dolomite, very light-grayish-brown, microcrystalline to finely crystalline(?); sandy as above. Chert, very light-gray to grayish-brown; trace
1885 - 1900 Dolomite as above, very sandy (fine-grained sand)
1900 - 1920 Dolomite as above, sandy
1920 - 1925 Dolomite, very light-gray and brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (fine- and medium-grained sand)
1925 - 1935 Dolomite, very light-gray and grayish-brown to light-brown, microcrystalline (dolosiltite), slightly sandy. Chert, very light-gray and brown; trace
1935 - 1960 Dolomite as above, nonsandy
1960 - 1975 Dolomite, very light-grayish-brown to light-brown, microcrystalline to finely crystalline, very slightly glauconitic, very slightly sandy (fine-grained sand); sucrosic in part; some pinpoint porosity. Chert, very light-gray and brown, oolitic (grain-supported); trace
1975 - 1980 As above. Dolomite, very light-gray, microcrystalline (dolosiltite), sandy (fine-grained sand); heavy trace
1980 - 1990 Dolomite as above
1990 - 1995 Dolomite, light-brown, very finely crystalline. Dolomite, light-brown and very light-gray, microcrystalline (dolosiltite). Siltstone, light-gray, brownish-gray, and greenish-gray, slightly dolomitic, argillaceous; minor. Chert, very light-gray; scattered oolites; trace
1995 - 2005 Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite) and very finely crystalline. Chert, very light-gray, oolitic (grain-supported); minor to heavy trace
2005 - 2015 Dolomite as above, very light brown. Chert as above, trace
2015 - 2020 Dolomite as above, sandy (fine- and medium-grained sand)
2020 - 2035 As above. Chert, very light-brownish-gray; scattered oolites; trace (heavy trace from 2030 to 2035 feet)
2035 - 2045 Dolomite, light- and medium-brown, very finely crystalline
2045 - 2060 Dolomite, very light-brownish-gray and light-brown, microcrystalline (dolosiltite); very finely sucrosic in part. Chert, white; trace
2060 - 2070 Dolomite as above, sandy (rounded and frosted fine- and medium-grained sand). Shale, light-green; trace. Chert, white; scattered oolites; trace
2070 - 2080 Dolomite, light-gray, microcrystalline (dolosiltite)
2080 - 2090 Dolomite as above. Dolomite, very light-brown; pelletal (fine-grained, grain-supported) in small part. Chert, white, oolitic; heavy trace
2090 - 2095 Dolomite as above, nonpelletal. Chert as above, trace
2095 - 2100 Dolomite, very light-gray to brownish-gray and medium-brown, microcrystalline (dolosiltite)
2100 - 2115 Dolomite, light- and medium-brown to grayish-brown, microcrystalline (dolosiltite)
2115 - 2120 Dolomite, very light-grayish-brown and medium-brown, microcrystalline (dolosiltite)
2120 - 2125 Dolomite, very light-brown, microcrystalline (dolosiltite). Chert, white; heavy trace
2125 - 2130 Dolomite, medium-brown, microcrystalline (dolosiltite)
2130 - 2135 Dolomite as above. Dolomite, very light-brownish-gray
2135 - 2145 Dolomite, very light-brown and grayish-brown, microcrystalline (dolosiltite). Chert, very light-brown; trace
2145 - 2150 Dolomite, light- and medium-brown, microcrystalline and very finely crystalline. Chert, white; trace
2150 - 2155 No samples
2155 - 2165 Dolomite, very light-grayish-brown to medium-brown, microcrystalline and very finely crystalline. Chert, white; trace
2165 - 2175 Dolomite as above. Dolomite, very light-gray (dolosiltite)
2175 - 2185 Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite)
2185 - 2190 Dolomite, medium-brown, very finely crystalline
2190 - 2215 Dolomite as above, light brown in part. Dolomite, very light-gray, microcrystalline (dolosiltite)
2215 - 2270 Dolomite, very light-gray, microcrystalline (dolosiltite). Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline
2270 - 2275 Dolomite as above, very slightly glauconitic
2275 - 2290 Dolomite as in sample from 2215 to 2270 feet
2290 - 2300 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite). Sandstone, light-gray, very fine-grained, slightly glauconitic; trace. Chert, white; trace
2300 - 2315 Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite) and very finely crystalline
2315 - 2335 Dolomite, very light-gray and grayish-brown, microcrystalline (dolosiltite), slightly glauconitic; streaks of slightly glauconitic very light-gray siltstone
2335 - 2355 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone as above, trace (to 2345 feet)
2355 - 2365 Dolomite as above, very light gray in part
2365 - 2570 Dolomite, very light-gray, microcrystalline and very finely crystalline; minor amount light brown
2570 - 2610 Dolomite, very light-brown to grayish-brown, microcrystalline (dolosiltite) and very finely crystalline
2610 - 2625 Dolomite, very light-gray and grayish-brown, microcrystalline (dolosiltite)
2625 - 2630 Dolomite as above. Dolomite, light-brown
2630 - 2635 Dolomite as above, pelletal and oolitic in small part (medium-grained, grain-supported)
2635 - 2655 As above. Dolomite, slightly sandy (very fine- to medium-grained sand). KERBEL FORMATION at 2645 feet
2655 - 2665 Dolomite as above, sandy (very fine- to coarse-grained sand)
2665 - 2680 Sandstone, light-brownish-gray, predominantly fine-grained, dolomitic
2680 - 2685 Sandstone as above. Dolomite, white, microcrystalline (dolomicrite and dolosiltite), slightly dandy. Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy; few medium-grained pellets.

CONASAUGA FORMATION at 2680 feet

2685 - 2695 As above, predominantly pelletal dolomite

2695 - 2710 Dolomite, very light- to medium-brown, microcrystalline and very finely crystalline, very sandy (very fine-grained sand)

2710 - 2715 Siltstone, light-brown to grayish-brown, dolomitic

2715 - 2725 Siltstone as above. Dolomite as in sample from 2695 to 2710 feet

2725 - 2730 Siltstone as above. Dolomite as above, minor

2730 - 2735 Dolomite, very light-gray to medium-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand). Siltstone as above, minor

2735 - 2740 Dolomite, medium-brown, microcrystalline, sandy (very fine-grained sand). Siltstone, medium-brown, slightly grayish, dolomitic

2740 - 2750 Dolomite as above. Dolomite, light-brown. Siltstone as above, argillaceous in part

2750 - 2755 Shale, dark-brownish-gray, silty. Siltstone as above. Dolomite, very light-gray to medium-brown, microcrystalline and very finely crystalline, slightly glauconitic; probably fossiliferous in part. Limestone, light-brown, lithographic, dolomitic; trace

2755 - 2760 Limestone as above. Siltstone, medium-brown, slightly grayish, dolomitic, argillaceous. Shale, dark-brownish-gray to grayish-brown, silty, dolomitic; minor

2760 - 2765 Limestone as above. Limestone, very light-gray; slightly fossiliferous in part. Shale as above. Shale, dark-gray. Siltstone as above, trace. Dolomite, medium-brown, microcrystalline, silty, slightly micaceous; trace

2765 - 2770 Misplaced sample

2770 - 2780 As in sample from 2760 to 2765 feet

2780 - 2785 Shale, medium- and dark-gray, silty, micaceous. Siltstone, medium-brown, dolomitic (dolomite in sample from 2760 to 2765 feet grading into siltstone), micaceous. Limestone as above, trace

2785 - 2795 As above, siltstone in part very slightly glauconitic. Limestone, very light-gray to medium-brown, lithographic and micrograined; fossiliferous in part; few oolites from 2790 to 2795 feet; minor

2795 - 2805 Limestone, very light-gray to medium-brown, lithographic and micrograined, fossiliferous, slightly glauconitic, oolitic (both grain- and mud-supported). Shale, dark-gray to greenish-gray. Siltstone as above, trace

2805 - 2810 Shale as above. Limestone as above, minor

2810 - 2820 Siltstone, light-pinkish-yellow to yellowish-brown, light-gray to greenish-gray, slightly glauconitic. Shale, dark-gray to greenish-gray

2820 - 2830 As above. Siltstone, micaceous

2830 - 2865 Siltstone, light-yellowish-brown, light- and medium-gray to greenish-gray, micaceous. Shale, dark-gray to greenish-gray, micaceous; minor amount reddish brown. Sandstone, light-gray to greenish-gray, fine-grained, glauconitic; trace

2865 - 2870 Shale, dark-gray to greenish-gray, micaceous; minor amount reddish brown. Siltstone as above, minor. Limestone, very light-gray, lithographic and micrograined, fossiliferous, oolitic (grain-supported); heavy trace. Dolomite, white, microcrystalline; trace

2870 - 2880 Shale, dark-gray to greenish-gray and reddish-brown. Dolomite, light-brown and white, microcrystalline; heavy trace. Limestone as above, trace. Siltstone, medium-brown, fossiliferous; trace

2880 - 2885 Shale as above. Siltstone, light-yellowish-brown, light-gray to greenish-gray, light-brown. Dolomite, white and medium-brown, microcrystalline and very finely crystalline; trace

2885 - 2900 As above. Limestone, very light- and light-gray, lithographic, silty; minor

2900 - 2920 Shale, dark-gray to greenish-gray, very minor reddish brown. Limestone, very light- and light-gray and light- and medium-brown, lithographic and micrograined, silty. Dolomite as above, trace

2920 - 2930 As above. Limestone, very silty

2930 - 2935 Dolomite, very light- to medium-brown and very light- and light-gray, microcrystalline and very finely crystalline, silty to very silty; glauconitic in part; probably bioclastic in part. Shale, dark-gray to greenish-gray, micaceous

2935 - 2945 Dolomite as above. Shale as above, minor

2945 - 2950 As above, part of dolomite grading into siltstone. Sandstone, light-yellowish-gray to pinkish-yellow, very fine-grained, glauconitic; trace

2950 - 2965 Sandstone, light-yellowish-gray to pinkish-yellow and light-brown, very fine-grained, micaceous, glauconitic, dolomitic (very gradational change from sandstone to dolomite as above). Shale as above, trace

2965 - 2975 Sandstone as above. Dolomite, very light- to medium-brown, microcrystalline and very finely crystalline, glauconitic, sandy to very sandy; fossiliferous in part (as in Conasauga-type limestone); heavy trace. Shale, dark-greenish-gray and reddish-brown, glauconitic; trace

2975 - 2985 Sandstone as above

2985 - 3000 Sandstone as above. Brown dolomite as in sample from 2965 to 2975 feet; minor

3000 - 3010 Sandstone, light-yellowish-gray and light-gray, light-brown, yellowish-brown, very fine-grained, glauconitic. Shale, dark-greenish-gray; minor. Dolomite, light- and medium-brown, microcrystalline, sandy to very sandy (very fine-grained sand); heavy trace

3010 - 3040 Sandstone as above. Shale as above, minor to heavy trace. Dolomite as above, heavy trace

3040 - 3075 Sandstone as above. Shale as above. Dolomite as above, heavy trace

3075 - 3085 Shale, dark-greenish-gray. Siltstone and very fine-grained sandstone, light-yellowish-brown to very light-grayish-brown, micaceous, slightly glauconitic

3085 - 3115 Sandstone, light-brown, fine-grained, dolomitic; few medium-sized grains. Shale, dark-greenish-gray; trace. ROME FORMATION at 3085 feet (overlain by Eau Claire tongue)

3115 - 3120 Sandstone, light- and medium-brown, very fine- and fine-grained, dolomitic

3120 - 3135 Sandstone as above, very slightly glauconitic in part. Dolomite, very light- and light-brown, microcrystalline, very silty, sandy (very fine- and fine-grained sand); very slightly glauconitic in part; minor

3135 - 3140 As above, some medium- and coarse-sized sand in sandstone and dolomite

3140 - 3160 As above. Dolomite, very light-gray and brown, microcrystalline (dolomicrite, minor dolosiltite); sandy in part; heavy trace

3160 - 3165 Dolomite, very light-gray and very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to coarse-grained sand); pelletal in part (fine- to coarse-grained, ovoid in shape in part, grain-supported). Sandstone, light-brown, very fine- and fine-grained, dolomitic; trace

3165 - 3175 Sandstone as above, minor. Dolomite as above
3175 - 3190 Sandstone, light-yellowish-gray, fine- to coarse-grained (predominantly medium); poorly sorted in part
3190 - 3200 Sandstone as above, very friable to 3195 feet
3200 - 3205 Sandstone, light-yellowish-gray, fine-grained; few medium-sized grains
3205 - 3210 Sandstone as above, light brownish gray in part, very fine grained in part
3210 - 3220 Sandstone, light-yellowish-gray, light-brown and light-grayish-brown, very fine- and fine-grained; very silty in part. Shale, dark-brown, dark-gray; minor
3220 - 3235 As above, sandstone slightly glauconitic. Siltstone, dark-brown, dolomitic; minor
3235 - 3245 Siltstone, medium- and dark-brown, dolomitic. Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), very silty; few oolites. Sandstone, medium-brown, fine-grained; trace
3245 - 3255 Dolomite, light-brown, microcrystalline (dolosiltite), silty, sandy (predominantly fine-grained sand), oolitic (fine-grained, grain-supported; some of oolites dissolved). Sandstone, very light- and light-brown, fine- and medium-grained; heavy trace
3255 - 3260 Sandstone, light-yellowish-gray to pinkish-gray, fine-grained; few medium-sized grains. Dolomite as above, light to dark brown. Dolomite, dark-brownish-gray, microcrystalline, silty, sandy, pelletal (very fine- and fine-grained, grain-supported). Shale, dark-gray, very silty; minor
3260 - 3265 As above, predominantly sandstone
3265 - 3280 As in sample from 3255 to 3260 feet
3280 - 3295 Sandstone, light-gray and pinkish-yellow, fine- to coarse-grained; some sandstone chips with oolites embedded. Dolomite as above, very sandy
3295 - 3310 Sandstone, light-pinkish-yellow to very light-brownish-gray, fine-grained. Dolomite as above, minor. MT. SIMON SANDSTONE at 3295 feet
3310 - 3330 Sandstone as above. Sandstone, light brownish gray and gray in part; glauconitic in small part
3330 - 3345 Sandstone as above, poorly sorted in part (fine to coarse grained)
3345 - 3355 Sandstone, poorly sorted, fine- to coarse-grained; predominantly pinkish-gray to yellowish-gray; predominantly fine-grained
3355 - 3380 Sandstone as above. Shale, dark-greenish-gray, very silty; heavy trace
3380 - 3390 Sandstone, light-grayish-yellow to pinkish-yellow, red, pink, white, fine- and medium-grained
3390 - 3400 As above, fine to coarse grained
3400 - 3415 Sand, medium- and coarse-grained, rounded and frosted. Sandstone as above, minor
3415 - 3465 Sand as above. Sandstone, white and very light-pinkish-gray, fine- to coarse-grained
3465 - 3485 As above. Sandstone, red, fine- and medium-grained; clayey in part
3485 - 3512 Sand, fine- to very coarse-grained, conglomeratic. PRECAMBRIAN at 3515 feet?
TD 3512 feet

Hocking County
Marion Township
Section 10

Sheldon L. Turrill #1
Whitmer
Permit No. 1342
Sample No. 2076
Elevation (DF) 773 feet

Depth (ft)

4251 - 4276 Limestone, very light-gray, light-brown, lithographic to fine-grained; pelletal in part
4276 - 4289 Dolomite, very light-brown, microsucrosic, very slightly glauconitic, silty; grading into siltstone. Limestone as above, trace
4289 - 4305 Dolomite as above. Siltstone, light-gray, glauconitic; trace
4305 - 4324 Dolomite, light-brown, very finely crystalline; poor vuggy porosity and some clear crystalline dolomite. Dolomite as above, trace. Chert, very light-gray; trace. KNOX DOLOMITE at 4322 feet (driller's top)
4324 - 4343 Dolomite as above, light brown
4343 - 4375 Dolomite as above, pyritic. Siltstone, light-gray; heavy trace
4375 - 4394 Dolomite as above, 70%. Siltstone, light-brownish-gray, dolomitic; 30%. Chert, white; trace
4394 - 4410 Sandstone, white, fine- and medium-grained, very friable; siliceous in part; 90%. Dolomite as above, 10%. Shale, medium-green; heavy trace. ROSE RUN sandstone at 4398 feet (driller's top)
4410 - 4423 Sandstone as above, some coarse-grained sand, 90%. Dolomite as above and siltstone as in sample from 4375 to 4394 feet, 10%
4423 - 4448 Sandstone as above, predominantly medium and coarse grained; grains predominantly rounded and frosted
4448 - 4455 Sandstone as above, predominantly medium grained, 90%. Dolomite, siltstone, green shale, 10%
4455 - 4462 Dolomite, very light- and light-brown, microcrystalline (dolosiltite, glauconitic, sandy (fine-grained sand); 90%. Sandstone as above, 10%
4462 - 4470 Dolomite, very light-brown, microcrystalline (dolosiltite), sandy (fine- to coarse-grained sand), silty, glauconitic; 60%. Sandstone, predominantly medium- and coarse-grained, dolomitic, slightly glauconitic; 40%. Chert, white, sandy, oolitic; heavy trace
4470 - 4488 Dolomite as above. Sandstone as above, trace
4488 - 4502 Dolomite, very light-brown, light-gray, microcrystalline (dolosiltite) and very finely crystalline. Sandstone, fine- to coarse-grained; trace
TD samples 4502 feet

Holmes County
Salt Creek Township
Section 25

Parker and Chapman #1
Troyer
Permit No. 1283
Sample No. 1169
Elevation (KB) 1316 feet

Depth (ft)

Samples above 6300 feet not examined

6300 - 6360 Limestone, light-brown, lithographic. Dolomite, light-brown, finely crystalline, calcareous, very slightly fossiliferous; trace. Shale, medium- to dark-brown; trace
6360 - 6380 Limestone as above. Shale, dark-brown; heavy trace. Shale, light- to medium-greenish-gray; heavy trace to trace
6380 - 6390 Dolomite, light-brown, very finely crystalline. Siltstone, light-grayish-green to very light-gray, argillaceous. Shale, dark-brown. Limestone as above, minor
6390 - 6400 As above. Shale, dark-greenish-gray; 50%
6400 - 6410 Shale and siltstone as above. Sand, fine- to coarse-grained, angular to rounded (predominantly rounded, fine- and medium-grained); trace
6410 - 6420 Sand as above (predominantly medium-grained, rounded); 70%. Dolomite, very light-gray, finely crystalline, sandy (very fine- and fine-

grained sand). Shale, medium- to dark-greenish-gray, sandy in part; trace. KNOX DOLOMITE at 6412 feet (GRN)

6420 - 6430 Dolomite, very light-gray to white, microcrystalline and very finely crystalline. Siltstone, light-brownish-gray, dolomitic, argillaceous

6430 - 6460 Dolomite, very light-brownish-gray, microcrystalline, sandy; grading into very fine and fine-grained dolomitic sandstone

6460 - 6470 No samples

6470 - 6480 Dolomite as above, very light-gray to brownish-gray

6480 - 6490 Dolomite, light-yellowish-gray, microcrystalline, slightly sandy (very fine-grained sand). Upper Ordovician shale cavings

6490 - 6500 Dolomite, very light-brown, microcrystalline and very finely crystalline, very slightly sandy; slight pinpoint porosity. Dolomite as above, minor. Cavings as above

6500 - 6510 No samples

6510 - 6550 As in sample from 6490 to 6500 feet

6550 - 6570 Dolomite, light-yellowish-gray to very light-brown, microcrystalline and very finely crystalline, very slightly sandy or silty. Shale cavings

6570 - 6580 Dolomite as above. Sandstone, medium-brown, very fine-grained, dolomitic; trace. Shale cavings as above. CONASAUGA FORMATION at 6585 feet (GRN)

6580 - 6620 Dolomite, very light-grayish-brown, microcrystalline. Dolomite, medium-brown to grayish-brown, microcrystalline, very silty. Shale and limestone cavings

6620 - 6660 Dolomite, very light-grayish-brown to light- and medium-brown to grayish-brown, microcrystalline, very silty. Shale and limestone cavings

6660 - 6670 Dolomite, very light-grayish-brown to medium-brown, microcrystalline and finely crystalline; fine and medium grained in part; very silty in part. Shale and limestone cavings

6670 - 6690 Dolomite, very light-grayish-brown and light-brown, microcrystalline and very finely crystalline; pelletal in part (coarse sand-sized pellets). Shale and limestone cavings. ROME FORMATION at 6668 feet (GRN)

6690 - 6710 Dolomite as above, nonpelletal; finely and medium crystalline in part; some intercrystalline porosity. Shale and limestone cavings

6710 - 6760 Dolomite, very light-brown to yellowish-brown, very finely to medium-crystalline; some intercrystalline porosity. Shale and limestone cavings

6760 - 6770 Dolomite as above, light and medium brown in part. Dolomite, pink. Cavings, trace

6770 - 6780 Dolomite as above. Sandstone, fine-grained. Cavings, trace

6780 - 6800 Dolomite, white to very light-gray and brownish-gray, microcrystalline and very finely crystalline. Cavings

6800 - 6850 Dolomite, white to very light-gray to medium-brown, microcrystalline to finely crystalline; fine grained in part; pelletal in part. Cavings

6850 - 6880 Dolomite, white to very light-gray, very finely crystalline, sandy; grading into fine-grained sandstone. Cavings

6880 - 6890 As above, dolomite in part. very light and light brown; sand in part medium grained. Cavings

6890 - 6900 Dolomite as above, sandy to very sandy. Cavings

6900 - 6940 Dolomite as above, grading into fine-grained sandstone; sand in part medium grained. Cavings

6940 - 7040 Dolomite, white to very light-gray to light-brown, microcrystalline and finely crystalline; medium grained in part; pelletal in part. Cavings

7040 - 7060 Dolomite as above, slightly sandy (very fine-grained sand). Cavings

7060 - 7140 Dolomite, white to very light-gray to very light-brown, microcrystalline and very finely crystalline, slightly sandy (very fine- and fine-grained sand). Cavings

7140 - 7160 Dolomite as above, pelletal in part. Cavings

7160 - 7180 Dolomite, white to light-gray to light-brown, microcrystalline and very finely crystalline, sandy, pelletal; in part oolitic (very dark-brown oolites). Cavings

7180 - 7210 Dolomite as above, light gray and light to dark brown, pelletal, sandy and silty (very fine- to medium-grained sand). Cavings

7210 - 7270 Dolomite as above, oolitic in part (black oolites)

7270 - 7290 Dolomite as above, very sandy, numerous pellets (very fine- and fine-grained sand). Shale cavings

7290 - 7330 As above, some subrounded and rounded fine- and medium-grained sand; numerous dark-brown and black oolites (and pellets?)

7330 - 7369 As above. Sandstone, white, fine- and medium-grained, siliceous; trace

TD 7369 feet

Huron County
Peru Township
Section 2

C. W. White #1 Arting
Permit No. 11
Sample No. 163B
Elevation (G) 749 feet

Depth (ft)

All sample intervals given are those on sample envelopes

0 - 3435 No sample

3435 - 3440 Sandstone, light-brown, brownish-gray, fine-grained, glauconitic, slightly dolomitic. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), sandy (very fine-grained); heavy trace. CONASAUGA lithology

3440 - 3530 No sample

3530 - 3535 Dolomite, very light-gray, grayish-brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand). ROME lithology

3535 - 3600 No sample

3600 - 3647 Dolomite as above, very finely crystalline, sandy (fine-grained sand), iron stained

3647 - 3650 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline, very sandy (very fine-grained sand)

3650 - 3800 No sample

3800 - 3870 Feldspar. Chlorite with reddish-brown mica flakes; heavy trace. PRECAMBRIAN

3870 - 3874 As above

3874 - 3879 As above

See McCormick (1961)

Samples below 3879 feet not examined

Jackson County
Franklin Township
Section 23

Halbert #1 Wood
Permit No. 76
Sample No. 1625
Elevation (KB) 816 feet

Depth (ft)

Samples very poor because of cavings and very fine size

4400 - 4510 Limestone, very light-gray to medium-brown, lithographic (predominantly) to bioclastic, coarse-grained; may be cavings

4510 - 4540 Limestone, very light- to medium-brown, predominantly lithographic; dolomitic in part

4540 - 4570 Cavings
4570 - 4610 Limestone as in sample from 4510 to 4540 feet
4610 - 4640 Limestone as above. Shale cavings. Dolomite, white and very light-brown, microcrystalline (dolosiltite); sandy in part (fine- and medium-grained sand). KNOX DOLOMITE at 4612 feet (GRN)
4640 - 4650 Cavings
4650 - 4690 Dolomite as above. Cavings
4690 - 4730 Dolomite as above. Siltstone, white, dolomitic. Sand, fine-grained, angular to subrounded (broken?); trace. Cavings
4730 - 4760 Dolomite as above. Sand as above, trace. Cavings
4760 - 4780 Dolomite as above, microsucrosic. Sand as above, fine and medium grained, trace. Cavings. ROSE RUN sandstone from 4770 to 4825 feet
4780 - 4800 Dolomite as above. Sand, fine- and medium-grained, rounded and frosted (in part dolomitic sandstone). Cavings
4800 - 4830 Sand as above. Sand, broken (coarse-grained?). Cavings
4830 - 4840 Sand as above. Dolomite, very light-gray and brown, microcrystalline (dolosiltite). Chert, white, sandy, oolitic; trace. Cavings
4840 - 4855 Dolomite as above. Sand as above, trace. Cavings
4855 - 4860 Sand as above. Dolomite as above, heavy trace
4860 - 4870 Dolomite, very light-gray and brown, microcrystalline (dolosiltite); sucrosic in part
4870 - 4875 No samples
4875 - 4900 Dolomite as above, silty in part
4900 - 4915 Dolomite, light-brown to very light-yellowish-brown, microcrystalline (dolosiltite), silty
4915 - 4920 Dolomite as above. Sand, fine-grained, rounded and frosted; trace
4920 - 4930 Dolomite as above, slightly sandy (very fine- and fine-grained sand) in part, silty. Sandstone, very light-brown, very fine- and fine-grained, dolomitic; heavy trace
4930 - 4960 Dolomite as above
4960 - 4985 Dolomite as above. Dolomite, medium-brown, microcrystalline (dolosiltite), pelletal (fine-grained); minor
4985 - 4990 Dolomite, very light-gray to light-brown, microcrystalline (dolosiltite), slightly sandy (rounded very fine- and fine-grained sand)
4990 - 5080 Dolomite as above. Chert, white; trace (to 5005 feet)
5080 - 5090 No samples
5090 - 5100 Dolomite as above. Siltstone, very light-gray, slightly glauconitic; heavy trace
5100 - 5115 As above, dolomite in part pelletal (medium-grained)
5115 - 5125 As above, dolomite in part sandy (rounded very fine- and fine-grained sand)
5125 - 5165 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), pelletal (fine-grained). Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite), silty, slightly glauconitic
5165 - 5200 Dolomite, very light-gray and brownish-gray, microcrystalline (dolosiltite), slightly silty; very slightly sandy in part
5200 - 5220 As above. Chert, white; trace
5220 - 5245 Dolomite as above, very finely and finely crystalline in part
5245 - 5270 Dolomite as above, medium and coarsely crystalline in part (as lining in vugs)
5270 - 5300 Dolomite, very light-gray to light-brownish-gray and brown, microcrystalline (dolomicrite and dolosiltite); minor amount very finely and finely crystalline
5300 - 5315 Dolomite as above, slightly sandy (rounded fine- and medium-grained sand) in part, slightly glauconitic
5315 - 5350 Dolomite as in sample from 5270 to 5300 feet
5350 - 5390 Dolomite as above, silty and glauconitic in part
5390 - 5405 Dolomite as above. Siltstone, light-gray, glauconitic; trace
5405 - 5430 Dolomite, very light-gray to light-brown, microcrystalline (dolomicrite and dolosiltite); probably pelletal (medium-grained) in part
5430 - 5445 Dolomite as above, oolitic(?) in part; may be a medium-grained dolarenite in part; sandy in part (fine-grained sand)
5445 - 5480 Dolomite as in sample from 5405 to 5430 feet, slightly sandy (fine-grained sand) in part
5480 - 5495 Dolomite, pelletal and oolitic; in part light- to medium-brown to grayish-brown
5495 - 5510 As above. Sand, fine-grained, rounded; trace
5510 - 5520 Dolomite as above, silty. Siltstone, light-gray and brown, dolomitic, slightly sandy (fine- and medium-grained sand); minor. KERBEL FORMATION at 5510 feet
5520 - 5535 Dolomite, very light-gray to medium-brown, microcrystalline, silty; pelletal in part. Sand, fine- to coarse-grained, subrounded and rounded; frosted in part; heavy trace. Siltstone, light-gray, dolomitic; heavy trace
5535 - 5540 As above. Sand as above, minor
5540 - 5555 Dolomite as above. Sand as above
5555 - 5565 Sand as above. Dolomite as above, minor
5565 - 5570 Dolomite as above. Sand as above, predominantly medium grained
5570 - 5600 Siltstone, light-brownish-gray to grayish-brown, sandy (very fine-grained sand), slightly dolomitic. Dolomite, very light-gray to light-brown, microcrystalline to very finely crystalline, silty. Sandstone, light-gray, very fine-grained, slightly dolomitic; minor. Sand as above, heavy trace to trace. CONASAUGA FORMATION at 5570 feet
5600 - 5605 Shale, dark-gray to greenish-gray, silty, slightly micaceous. Siltstone, light-greenish-gray. Dolomite, very light-gray to medium-brown, microcrystalline, silty, slightly glauconitic. Sand, fine- to coarse-grained, predominantly rounded; frosted in part; trace
5605 - 5615 As above. Shale, dark-brown to reddish-brown; minor
5615 - 5625 Shale, dark gray to greenish-gray, silty, slightly micaceous. Siltstone, light-brown, dolomitic, slightly glauconitic; minor; grading into dolomite. Dolomite and sand as above, heavy trace
5625 - 5630 Shale as above. Siltstone as above, minor
5630 - 5640 As above. Dolomite, light-brownish-gray and very light- and light-gray, microcrystalline to finely crystalline, fossiliferous(?) or bioclastic, slightly glauconitic (compare with #1 Wikoff, Clermont County, at 2500 feet)
5640 - 5710 Shale as above. Dolomite grading into siltstone as above; shale in part reddish brown (cavings?)
5710 - 5730 Dolomite, very light- to medium-grayish-brown, microcrystalline (dolarenite? in part), glauconitic. Siltstone, very light-brownish-gray, dolomitic, slightly glauconitic. Shale, dark-gray to greenish-gray; minor
5730 - 5740 Dolomite and siltstone as above. Shale as above, heavy trace. ROME FORMATION at 5738 feet (GRN)
5740 - 5760 Sandstone, light;yellowish-gray to brownish-gray, very fine-grained. Siltstone, light-yellowish-gray, sandy (very fine-grained sand), glauconitic, micaceous; minor. Dolomite as above, minor

5760 - 5765 Sandstone and siltstone as above. Dolomite, very light-gray and brownish-gray, microcrystalline (dolomicrite); slightly sandy in part (very fine-grained sand).
5765 - 5770 Dolomite as above, sandy in part. Sandstone and siltstone as above, minor
5770 - 5780 As above. Limestone, medium-brown, recrystallized, silty, fossiliferous (brachiopod); trace. Sandstone, medium- and coarse-grained; trace
5780 - 5795 Dolomite, white, light-yellowish-gray and very light-brownish-gray, microcrystalline (dolomicrite); slightly sandy in part (very fine- and fine-grained sand). Sandstone, very light- and light-brown, very fine-grained, dolomitic; heavy trace
5795 - 5800 As above. Dolomite, light-gray, microcrystalline (dolosiltite), silty
5800 - 5805 Dolomite, very light- and light-gray, microcrystalline (dolomicrite and dolosiltite); silty and sandy (very fine- to medium-grained sand) in part
5805 - 5810 No samples
5810 - 5825 As above. Sandstone, light-brown, very fine-grained; heavy trace
5825 - 5830 Dolomite as above. Dolomite, white to light-gray, medium-crystalline; minor
5830 - 5845 Dolomite as in sample from 5800 to 5805 feet
5845 - 5860 As in sample from 5825 to 5830 feet (trace medium-crystalline dolomite)
5860 - 5900 As above, sand in dolomite very fine to coarse grained, rounded
5900 - 5910 Dolomite, very light- and light-gray and very light-brownish-gray and brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine- to medium-grained sand)
5910 - 6000 As above. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained); pelletal (medium-grained pellets) in part
6000 - 6005 As above, sandy to very sandy in part (very fine- to medium-grained sand, predominantly very fine)
6005 - 6010 Misplaced sample
6010 - 6015 As above, brown dolomite in part dark brown
6015 - 6040 Dolomite, light- to dark-brown, microcrystalline, oolitic and pelletal (fine- and medium-grained, grain-supported), silty, sandy (fine-grained sand); argillaceous in part. Dolomite, very light-gray, oolitic (fine-grained, grain-supported). Dolomite, very light-gray, microcrystalline (dolosiltite), slightly sandy (fine-grained sand); minor. Sandstone, very light-grained, dolomitic; trace
6040 - 6045 As above, sand in dolomite fine to coarse grained
6045 - 6085 Dolomite as above. Sandstone, very light-brownish-gray, fine-grained; minor
6085 - 6095 Sandstone, light-brown, grayish-brown, and pinkish-yellow, fine-grained; in part poorly sorted fine- to coarse-grained. Dolomite, light- to dark-brown and grayish-brown, very light- and light-gray and brown, microcrystalline, pelletal and oolitic, sandy (very fine-grained sand), silty
6095 - 6140 Dolomite as above. Sandstone as above, minor
6140 - 6150 Sand, fine- to coarse-grained (predominantly fine-grained), subangular to rounded. Dolomite, light- and medium-brown to grayish-brown, microcrystalline, silty, sandy (very fine- to medium-grained sand), pelletal and oolitic in part, minor. Cavings. MT. SIMON SANDSTONE at 6150 feet
6150 - 6160 Sand as above. Sandstone, pinkish-gray and pinkish-yellow, fine-grained. Dolomite as above, minor
6160 - 6170 Sandstone as above, light gray in part. Dolomite as above, very sandy; heavy trace
6170 - 6195 Sandstone as above. Sand, fine- to coarse-grained (predominantly medium), subangular to rounded and frosted. Dolomite as above, trace
6195 - 6200 As above, predominantly sand
6200 - 6205 Dolomite, light- to dark-brown and gray, microcrystalline, very sandy; oolitic and pelletal in part (in place?). Sand and sandstone as above, minor
6205 - 6210 Dolomite as above (in place?)
6210 - 6220 Dolomite as above. Sand as in sample from from 6200 to 6205 feet. Arkose(?), quartz, feldspar, mica, hornblende, in weathered-looking rocks
6220 - 6230 Sand and arkose(?) as above
6230 - 6320 Quartz, biotite (in coarse flakes), feldspar, biotite gneiss or schist(?). PRECAMBRIAN? at 6230 feet in samples

TD 6320 feet

Knox County
Hilliar Township
Lot 21, 3rd Qtr. Twp.

Kin-Ark Oil Co. #1 Huffman
Permit No. 1604
Sample No. 1467
Elevation (KB) 1183 feet

Depth (ft)

3700 - 3715 Limestone, medium- and dark-brown, lithographic; bird's-eye structures; very argillaceous in part. Shale, medium-greenish-gray, pyritic, dolomitic, sandy (very fine-grained sand); minor to heavy trace
3715 - 3735 Shale as above. Dolomite, light-brown and grayish-brown, microcrystalline (dolosiltite), argillaceous, silty, sandy; laminated in part. Limestone as above
3735 - 3740 As above. Sandstone, medium-gray, very fine- and fine-grained, dolomitic; trace
3740 - 3745 As above. Dolomite, very light- and light-brown to yellowish-brown, very fine and finely crystalline; poor pinpoint porosity. KNOX DOLOMITE at 3737 feet (GRN)
3745 - 3780 Dolomite as above, brown to yellowish brown; fair vuggy and pinpoint porosity, becoming poor at 3755 feet
3780 - 3785 Dolomite, very light- and light-brown to yellowish-brown, microcrystalline; fine- to coarse-grained dolarenite in part; poor pinpoint porosity
3785 - 3810 Dolomite as above, finely crystalline and sucrosic in part
3810 - 3850 Dolomite, very light-grayish-brown to light-brown and yellowish-brown, microcrystalline and very finely crystalline; fine grained in part; very finely and finely sucrosic in part
3850 - 3870 As above, very slightly glauconitic, very slightly silty
3870 - 3900 Dolomite, very light-brown, microcrystalline (dolosiltite)
3900 - 3910 Dolomite as above, very finely crystalline and sucrosic in part. Siltstone, light-greenish-gray, very slightly glauconitic; trace
3910 - 3920 No samples
3920 - 3930 As in sample from 3900 to 3910 feet
3930 - 4020 Dolomite, very light- and light-brown and yellowish-brown, microcrystalline (dolosiltite) to finely crystalline (predominantly microcrystalline)
4020 - 4040 Dolomite, medium-brown, microcrystalline (dolosiltite) to finely crystalline, slightly glauconitic, sandy to very sandy (very fine- and fine-grained sand); fine grained in part

4040 - 4090 As above, fair pinpoint porosity. Sandstone, very light-gray, fine-grained, glauconitic; trace

4090 - 4120 Dolomite, light-yellowish-gray to medium-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand), slightly glauconitic; very fine and fine grained in part; medium sucrosic with vuggy porosity in part

4120 - 4140 Dolomite as above, pelletal and oolitic in part (medium-grained, mud-supported) sandy to very sandy (very fine- to medium-grained sand) in small part

4140 - 4150 Dolomite, light-yellowish-gray and very light-yellowish-brown, microcrystalline (dolosiltite); very fine-grained in part; sandy (very fine- to medium-grained sand) in part

4150 - 4160 Dolomite as above, light brown in part, some medium- and coarse-grained sand; grading into very fine- and fine-grained sandstone. KERBEL FORMATION at 4150 feet

4160 - 4180 As above, sandstone poorly sorted, very fine to coarse grained

4180 - 4190 Sandstone as above. Dolomite as above, minor

4190 - 4200 Sandstone, light-grayish-brown, very fine- and fine-grained (predominantly fine), dolomitic

4200 - 4220 Sandstone as above, some medium- and coarse-grained sand

4220 - 4230 Sandstone, light-grayish-brown, very fine- and fine-grained, dolomitic. Shale, dark-brown, minor. CONASAUGA FORMATION at 4220 feet

4230 - 4240 Sandstone as above, in part medium brown. Shale as above

4240 - 4270 As above. Sandstone, slightly glauconitic, micaceous

4270 - 4290 Sandstone as above, dark brown in part. Shale as above, very glauconitic in part. Dolomite, very glauconitic; coarse dolarenite; trace

4290 - 4300 Sandstone as above, glauconitic. Shale as above, trace. Dolomite as above, trace

4300 - 4320 Sandstone, light- and dark-brown, very fine- and fine-grained, slightly dolomitic. Shale, dark-brown; trace

4320 - 4340 Sandstone as above. Dolomite, very light-gray and brown, microcrystalline (dolosiltite); trace. ROME FORMATION at 4317 feet (GRN)

4340 - 4350 Dolomite, dark-brown, microcrystalline (dolosiltite), oolitic or pelletal (quartz silt oolites or pellets between .2 and .3 mm, sample no. 156), sandy (very fine- and fine-grained sand). Dolomite as above. Sandstone, very light-brownish-gray and brown, very fine-grained; heavy trace

4350 - 4360 No samples

4360 - 4370 As in sample from 4340 to 4350 feet

4370 - 4410 Dolomite, very light- and light-gray and brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- and fine-grained sand); in small part oolitic (fine- to coarse-grained, grain-supported). Pelletal or oolitic dolomite as above, minor

4410 - 4430 Dolomite, very light-gray and brown, microcrystalline (dolosiltite); sandy (very fine-grained sand) in part. Dolomite, dark-brown, microcrystalline (dolosiltite), pelletal; minor to heavy trace

4430 - 4440 As above, sand in dolomite very fine to medium grained

4440 - 4450 Dolomite, very light-gray, brown, and brownish-gray, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- to medium-grained sand)

4450 - 4460 Dolomite, very light- to medium-brown and grayish-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy; fine grained in part; grading into fine-grained sandstone. Sandstone, minor

4460 - 4470 As above, sand fine to coarse grained

4470 - 4490 Dolomite, very light- to medium-brown and gray, microcrystalline (dolomicrite), sandy (fine- and medium-grained sand)

4490 - 4500 Dolomite, very light-gray and brown, microcrystalline (dolomicrite), sandy to very sandy (fine- to coarse-grained sand); grading into sandstone. Sandstone, heavy trace

4500 - 4540 Dolomite as above, sandy to slightly sandy in part

4540 - 4560 Dolomite, very light- to medium-gray and brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (predominantly fine-grained sand). Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), pelletal (fine-grained, grain-supported); heavy trace

4560 - 4570 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand), oolitic (medium-grained, grain-supported); laminated with minor amount microcrystalline (dolomicrite) medium-brown dolomite

4570 - 4580 No samples

4580 - 4590 Dolomite as above, very sandy in part. Sandstone, white, fine-grained; trace

4590 - 4610 Dolomite, light- and dark-brown, microcrystalline (dolosiltite), oolitic, pelletal, sandy to very sandy (very fine- to coarse-grained sand). Sandstone, very light-brown, poorly sorted; minor. Dolomite, dark-brown, microcrystalline (dolomicrite); trace

4610 - 4620 Sandstone, very light-brown and gray, predominantly medium-grained. Dolomite as above (dolosiltite), minor

4620 - 4630 Sandstone, white, very light- and light-brown and light- and medium-gray, predominantly medium-grained. Dolomite (dolosiltite) as above, minor

4630 - 4640 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand); oolitic and pelletal in part

4640 - 4650 Dolomite as above. Dolomite, light-gray, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand)

4650 - 4660 Dolomite, dark-brown, microcrystalline (dolosiltite), oolitic, pelletal, sandy. Sandstone, white, predominantly medium-grained

4660 - 4690 Sandstone as above and very light brown. Dolomite as above, minor. MT. SIMON SANDSTONE at 4660 feet

4690 - 4700 Sandstone, white, light-pinkish-gray, colorless, fine- to coarse-grained, siliceous. Dolomite as above, trace

4700 - 4770 Sandstone as above

4770 - 4780 Sandstone as above. Granite gneiss

4780 - 4810 Granite gneiss. Chlorite(?) with biotite, quartz, feldspar, minor. PRECAMBRIAN at 4773 feet

TD 4810 feet

Knox County
Milford Township
Section 10

Ohio Fuel Gas Co. #1
Larimore
Permit No. 1468
Sample No. 1055
Elevation (KB) 1204 feet

Depth (ft)

4200 - 4205 Limestone, medium-brown and gray, microcrystalline (dolomicrite and calcisiltite); slightly argillaceous in part. Sand, fine-grained; trace

4205 - 4220 Dolomite, light-brown, slightly grayish, micrograined, calcareous. Shale, medium-greenish-

gray; minor

4220 - 4225 Dolomite, light-greenish-gray, micrograined (dolosiltite), silty, argillaceous. Sand, fine- and medium-grained, rounded and frosted; trace

4225 - 4240 Dolomite as above, grading into shale. Sand, very fine- to medium-grained, rounded and frosted; broken in part

4240 - 4260 No samples. KNOX DOLOMITE at 4245 feet (GRN)

4260 - 4275 Dolomite, light-brown, microcrystalline (dolosiltite); very fine sample

4275 - 4295 No samples

4295 - 4300 Dolomite, very light- and light-brown to yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline

4300 - 4310 No samples

4310 - 4360 Dolomite as in sample from 4295 to 4300 feet; salt water from 4320 to 4325 and 4330 to 4335 feet; trace pinpoint porosity from 4345 to 4350 feet

4360 - 4365 Dolomite, very light-brown and gray, microcrystalline (dolosiltite). Sandstone, very light-gray, very fine-grained, silty, glauconitic; trace

4365 - 4375 Sandstone as above. Siltstone, very light-gray, glauconitic. Dolomite, very light-brown, microcrystalline (dolosiltite)

4375 - 4380 Dolomite as above. Siltstone as above, trace

4380 - 4410 Dolomite, very light-brown and gray, microcrystalline (dolosiltite), slightly glauconitic. Siltstone, very light-gray, slightly glauconitic, slightly dolomitic; minor to heavy trace

4410 - 4425 Dolomite, very light- and light-brown, microcrystalline (dolosiltite)

4425 - 4470 Dolomite as above, very light and light brown and grayish brown

4470 - 4490 Dolomite, light- and medium-brown, microcrystalline (dolosiltite)

4490 - 4495 Dolomite, very light-gray, brownish-gray, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand)

4495 - 4515 Dolomite as in sample from 4470 to 4490 feet, very finely and finely crystalline in part

4515 - 4535 Dolomite as above, silty to very silty in part

4535 - 4550 Dolomite, light-brownish-gray and brown, microcrystalline (dolosiltite), slightly glauconitic, silty to very silty, grading into siltstone. Siltstone, minor

4550 - 4560 Siltstone as above. Dolomite as above, minor

4560 - 4570 Sandstone, very light-brownish-gray, very fine-grained, silty, slightly glauconitic, dolomitic. Dolomite, light- and medium-brown, finely crystalline, sandy; minor

4570 - 4590 Dolomite, medium-brown, finely crystalline, sandy (very fine- and fine-grained sand). Sandstone as above, very light gray, trace

4590 - 4600 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline, sandy (very fine- and fine-grained sand). Sandstone, very light-gray and brownish-gray, very fine-grained, silty, slightly glauconitic; minor. Selenite crystals, trace from 4595 to 4600 feet

4600 - 4610 Dolomite, light-brown and very light-gray, very fine and finely crystalline. Selenite, trace

4610 - 4620 Dolomite, very light- and light-brown, microcrystalline (dolosiltite)

4620 - 4625 Dolomite as above, sandy to very sandy in small part (fine- to coarse-grained sand). KERBEL FORMATION at 4620 feet

4625 - 4675 Dolomite as above, sand in dolomite very fine and fine grained

4675 - 4685 As above, some coarse-grained sand in dolomite

4685 - 4690 Dolomite, very light-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand)

4690 - 4705 Dolomite as above, grading into fine- to coarse-grained sandstone (predominantly coarse)

4705 - 4720 Sandstone, light-brown to grayish-brown, fine-grained, dolomitic; some medium- and coarse-grained sand

4720 - 4730 Sandstone as above, fine grained

4730 - 4735 Sandstone as above, very light gray. Siltstone, medium-brown, argillaceous, sandy (very fine-grained sand). CONASAUGA FORMATION at 4730 feet

4735 - 4755 As above, sandstone slightly glauconitic. Shale, dark-brown, silty. Chert, white, oolitic, trace to 4740 feet

4755 - 4765 Sandstone, very light- to medium-brown and very light-gray, very fine- and fine-grained, slightly glauconitic, slightly micaceous, fossiliferous (brachiopod). Dolomite, very light-brownish-gray, microcrystalline (dolosiltite); trace

4765 - 4775 Sandstone as above

4775 - 4780 Sandstone as above, very glauconitic. Dolomite, light-gray to medium-brown, bioclastic, glauconitic, sandy

4780 - 4815 Sandstone, very light-brown to brownish-gray, fine-grained, slightly dolomitic

4815 - 4820 As above? Mostly cavings

4820 - 4825 Sandstone as above. Dolomite, dark-brown, microcrystalline (dolomicrite and dolosiltite), sandy. Dolomite, light- and medium-gray, microcrystalline (dolomicrite and dolosiltite), sandy (fine- and medium-grained sand). Cavings. ROME FORMATION at 4823 feet (GRN)

4825 - 4840 Dolomite, light- to medium-gray, light-brown and brownish-gray, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to coarse-grained sand)

4840 - 4850 Dolomite as above, oolitic in part (medium-grained, grain-supported); sand in dolomite very fine and fine grained

4850 - 4865 Dolomite as above, very slightly sandy; trace vuggy and pinpoint porosity to 4860 feet

4865 - 4880 Dolomite, light- to dark-brown, microcrystalline (dolosiltite), pelletal, sandy (very fine- to coarse-grained); grading into very fine-grained sandstone. Sandstone, trace

4880 - 4890 Dolomite as above. Dolomite, very light-brownish-gray, microcrystalline (dolosiltite); heavy trace to trace

4890 - 4895 Dolomite, very light- and light-gray to brownish-gray, microcrystalline (dolosiltite). Pelletal dolomite as above, trace

4895 - 4900 Dolomite, gray- to brownish-gray as above. Dolomite, pelletal as above

4900 - 4905 As in sample from 4890 to 4895 feet

4905 - 4910 Cavings

4910 - 4915 Dolomite, very light- and light-gray and brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy; grading into very fine-grained sandstone

4915 - 4930 Dolomite as above, very slightly sandy

4930 - 4945 Dolomite as above, light- and medium-gray and brown, slightly pelletal (medium-grained, grain-supported)

4945 - 4955 Dolomite, very light- and light-gray and very light-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand)

4955 - 4960 Dolomite as above, sand in dolomite very fine to medium grained

4960 - 4965 As above. Sandstone, medium-gray, very fine-grained, argillaceous; trace

4965 - 4975	Dolomite, very light- and light-gray and very light-brown, microcrystalline (dolosiltite), sandy; grading into very fine-grained sandstone
4975 - 4995	Dolomite as above, sandy
4995 - 5010	Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy; grading into minor amount fine-grained sandstone
5010 - 5020	Dolomite as above, fine and medium grained, fossiliferous or bioclastic in part. Sandstone, fine-grained; minor
5020 - 5025	Sandstone, very light-brown, fine-grained, dolomitic
5025 - 5050	Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), slightly oolitic (mud-supported, medium-grained); sandy in part (fine-grained sand)
5050 - 5070	Dolomite, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), pelletal and oolitic (fine- and medium-grained, grain-supported); slightly sandy in part (very fine- and fine-grained sand)
5070 - 5075	As above. Sandstone, light- and medium-brown, fine- and medium-grained, dolomitic; trace
5075 - 5080	Sandstone as above. Dolomite as above, trace
5080 - 5085	Dolomite, very light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), pelletal (fine- and medium-grained, grain-supported), very slightly sandy (very fine-grained sand); some medium-grained oolites
5085 - 5100	Dolomite, light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), oolitic (medium- and coarse-grained, black, grain- and mud-supported), sandy to very sandy (fine- to coarse-grained sand); in part pelletal as above; grading into sandstone. Sandstone, heavy trace to 5090 feet, minor from 5090 to 5100 feet
5100 - 5115	Dolomite, light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine- to coarse-grained sand); pelletal as above; oolitic as above in part
5115 - 5125	Dolomite as above, sandy to very sandy, grading into sandstone. Sandstone, heavy trace to minor
5125 - 5130	Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to fine-grained sand)
5130 - 5145	Dolomite as in sample from 5115 to 5125 feet
5145 - 5155	Dolomite, dark-brown, microcrystalline (dolosiltite), oolitic, pelletal, sandy (very fine- to coarse-grained sand)
5155 - 5160	Dolomite as above, very light to dark brown, in part nonpelletal and nonoolitic
5160 - 5170	As above. Sandstone, very light-brown, fine- to coarse-grained, poorly sorted; trace
5170 - 5185	Dolomite as above. Sandstone as above, minor; cavings
5185 - 5190	Dolomite, very light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), oolitic and pelletal, sandy (very fine- to coarse-grained sand); grading into sandstone. Sandstone, heavy trace
5190 - 5195	Sandstone, very light-yellowish-brown, fine- to coarse-grained (predominantly fine and medium). Dolomite as above, heavy trace. MT. SIMON SANDSTONE at 5190 feet
5195 - 5200	Sandstone as above. Dolomite as above
5200 - 5215	Sandstone as above. Dolomite as above, heavy trace to trace
5215 - 5220	Sandstone as above. Dolomite as above
5220 - 5230	Sandstone, very light-gray and light-yellowish-gray, fine- and medium-grained (predominantly fine), siliceous
5230 - 5235	Sandstone as above. Sandstone, light-brown, fine- to coarse-grained, dolomitic. Dolomite, light- and medium-brown, pelletal, oolitic, very sandy; trace
5235 - 5245	As above? Cavings, 99%
5245 - 5255	Sandstone, very light- to dark-gray, fine- and medium-grained; some skeletal pellets
5255 - 5260	Sandstone, very light-gray and very light- and light-brown, fine- to coarse-grained, poorly sorted
5260 - 5265	Sandstone, white and very light-brown, fine- and medium-grained, well-sorted
5265 - 5275	Sandstone as above. Sand, coarse-grained; minor
5275 - 5300	Sandstone as above. Sand as above, trace
5300 - 5310	No samples
5310 - 5315	Sandstone, very light-pinkish-gray, fine- and medium-grained. Sand, coarse-grained; minor
5315 - 5325	No samples
5325 - 5330	Sand and sandstone as above. Orthoclase, pink, coarse-grained; trace
5330 - 5335	Arkose, pink. Cavings, 99%
5335 - 5360	Arkose, pink, hematitic, chloritic. Sand, medium- and coarse-grained. Sandstone, fine- and medium-grained; trace
5360 - 5365	As above. Granite gneiss, trace
5365 - 5370	Gneiss (orthoclase, biotite, quartz). PRECAMBRIAN at 5364 feet?
	TD 5370 feet

Knox County
Pike Township
Section 9

David L. Cantway #1 Cunningham (Palos Verdes)
Permit No. 1413
Sample No. 1839
Elevation (KB) 1253 feet

Depth (ft)	
4700 - 4730	Limestone, very light- to medium-brown, lithographic. Shale, dark-gray to greenish-gray, heavy trace to trace. Very fine sample
4730 - 4750	Limestone as above. Shale, light-green and dark-gray to greenish-gray; minor. Sand, fine-grained, broken; trace. Very fine sample
4750 - 4755	Shale, light-green. Sand, very fine- and fine-grained (broken). Limestone as above, trace
4755 - 4760	Dolomite, very light-brown (crystallinity indeterminable). Sand as above, trace. Very fine sample. KNOX DOLOMITE at 4755 feet
4760 - 4835	Dolomite, very light-yellowish-brown to light-yellowish-gray, microcrystalline (dolosiltite?). Very fine sample
4835 - 4865	Dolomite as above, slightly glauconitic in small part. Sand, fine-grained, trace. Very fine sample. "B zone" at 4850 feet (GRN)
4865 - 4875	Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone, light-greenish-gray, dolomitic, glauconitic; heavy trace. Shale, light-green, slightly glauconitic; trace; in place(?). Sample also contains Queenston and Black River cavings
4875 - 4880	Cavings
4880 - 4895	No samples
4895 - 4900	Dolomite, light-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline, silty, glauconitic. Siltstone, very light-gray and light-greenish-gray, glauconitic. Shale, light-green, slightly glauconitic; heavy trace. Cavings as sample from 4865 to 4875 feet
4900 - 4930	Siltstone, light-pinkish-yellow and very light-gray, very slightly glauconitic. Dolomite, light-brown, very finely crystalline, silty
4930 - 4950	Siltstone as above. Dolomite as above, microcrystalline (dolosiltite) and very finely crystalline

4950 - 5010 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline; some medium-grained pellets. Siltstone as above, trace

5010 - 5015 No samples

5015 - 5025 Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite), silty

5025 - 5030 Dolomite, very light-grayish-brown, microcrystalline (dolomicrite), slightly pyritic

5030 - 5035 Dolomite as above, light brown in part, dolosiltite in part

5035 - 5040 Dolomite, light-yellowish-brown, very finely and finely crystalline, fine- and medium-grained; dolarenite in part

5040 - 5045 Dolomite as above, microcrystalline (dolomicrite and dolosiltite) in part

5045 - 5055 Dolomite, light-yellowish-brown and brown, microcrystalline (dolomicrite and dolosiltite); silty in part; becoming very finely and finely crystalline (fine- and medium-grained dolarenite) in part at 5050 feet

5055 - 5060 Dolomite as above, sandy (very fine-grained sand), slightly glauconitic. Sandstone, very light-gray, very fine-grained, dolomitic, slightly glauconitic; heavy trace

5060 - 5065 No sample

5065 - 5075 Dolomite, light-yellowish-brown and brown, microcrystalline (dolosiltite) and very finely crystalline, slightly glauconitic; slightly sandy in part (very fine-grained sand)

5075 - 5085 Dolomite, light-yellowish-brown and brown, microcrystalline to finely crystalline; slightly sandy in part (very fine- and fine-grained sand); pelletal in part (fine-grained, mud-supported); fine-grained dolarenite in part

5085 - 5110 No samples

5110 - 5130 Dolomite as above, nonpelletal

5130 - 5135 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolomicrite and dolosiltite); fine- and medium-grained dolarenite in part; sandy in part (fine- and medium-grained sand). Sandstone, light-brown, fine- and medium-grained, dolomitic, slightly siliceous; trace. KERBEL FORMATION at 5130 feet

5135 - 5140 Dolomite as above, in part light brownish gray, sandy (fine- to coarse-grained sand, predominantly medium)

5140 - 5150 Dolomite, very light- and light-brownish-gray and brown, microcrystalline (dolosiltite), silty, sandy (very fine-grained sand)

5150 - 5155 Dolomite as above, in part medium brown, fine and medium grained; dolarenite in part, sandy (very fine- to medium-grained sand, predominantly fine). Sandstone, light-brown, very fine- and fine-grained; trace

5155 - 5165 Dolomite, very light- and light-brownish-gray and brown and light- and medium-gray, microcrystalline (dolomicrite and dolosiltite), sandy (fine- to coarse-grained sand, predominantly medium-grained); oolitic in part (medium-grained, grain-supported), grading into sandstone. Sandstone, trace

5165 - 5175 Sandstone, very light- to light-brown, fine- to coarse-grained (predominantly medium), dolomitic

5175 - 5180 No sample

5180 - 5190 Sandstone, very light- to light-brown, fine- and medium-grained (predominantly fine, slightly dolomitic

5190 - 5195 Sandstone, very light-yellowish-brown to brown, fine-grained, slightly dolomitic

5195 - 5210 Sandstone as above, some medium-sized grains

5210 - 5215 Sandstone as in sample from 5195 to 5205 feet

5215 - 5220 Sandstone, very light- and light-brown, fine-grained; some medium- and coarse-grained sand. Shale, dark-brown, silty, dolomitic; heavy trace

5220 - 5235 Siltstone, light-brown, dolomitic; grading into dolomite. Shale as above, heavy trace. Sandstone as above, trace. CONASAUGA FORMATION at 5220 feet

5234 - 5245 As above. Siltstone and dolomite slightly glauconitic

5245 - 5255 Siltstone, light- to dark-brown, slightly glauconitic, slightly dolomitic. Shale and sandstone as above, heavy trace to trace

5255 - 5265 Sandstone, very light- and light-gray, very fine- and fine-grained (predominantly fine), slightly glauconitic. Siltstone as above, minor. ROME FORMATION at 5261 feet (GRN)

5265 - 5270 No sample

5270 - 5275 As above. Dolomite, very light-brown and very light- and light-gray, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand); fine- and medium-grained dolarenite in part (may be pelletal).

5280 - 5300 Dolomite as above. Dolomite, medium-brown, microcrystalline to finely crystalline, pelletal (fine- and medium-grained, grain-supported), sandy (fine- and medium-grained sand); poor pinpoint porosity

5300 - 5340 Dolomite, light-yellowish-gray, very light- and light-gray and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand). Sandstone, light-yellowish-gray, very fine- to medium-grained; thin streaks

5340 - 5350 Dolomite as above, nonsandy to very slightly sandy

5350 - 5390 Dolomite as above, sandy (very fine- to medium-grained sand). Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), sandy; some pellets (fine- and medium-grained, mud-supported); minor

5390 - 5480 As above. Dolomite, nonsandy to very slightly sandy; some pellets; medium gray in part

5480 - 5495 Dolomite, very light- to dark-brown, very light- to medium-gray, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand). Sandstone, very light-brown, fine-grained; heavy trace to trace

5495 - 5525 As above, dolomite pelletal in part (fine-grained, mud-supported)

5525 - 5535 Dolomite, very light- and light-brown, light-gray and brownish-gray, microcrystalline (dolomicrite and dolosiltite), pelletal (fine- and medium-grained, grain-supported)

5535 - 5555 Dolomite as above, medium brown in part, sandy (very fine- and fine-grained sand)

5555 - 5565 Dolomite, very light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), pelletal fine- and medium-grained, grain-supported), sandy (very fine- and fine-grained sand); grading into sandstone. Sandstone, heavy trace

5565 - 5580 Dolomite as above, sand in dolomite very fine to medium grained. Sandstone as above, heavy trace

5580 - 5585 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite); pelletal as above; sandy as above. Sandstone as above, heavy trace

5585 - 5600 Dolomite as above. Sandstone, very light-brown, fine- and medium-grained; some coarse grains; minor

5600 - 5660 Dolomite, light- to dark-brown and dark-gray, microcrystalline (dolosiltite), pelletal, oolitic (medium-grained, mud- and pellet-supported), sandy to very sandy (predominantly very fine-

and fine-grained sand). Sandstone as above, minor

5660 - 5665 Dolomite as above. Sandstone, very light-brown, fine- to coarse-grained, poorly sorted; subequal to minor

5665 - 5670 Sandstone, very light-gray to light-brownish-gray, very fine- and fine-grained, slightly glauconitic. Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- to coarse-grained sand), some pellets; minor. MT. SIMON SANDSTONE at 5665 feet

5670 - 5675 Sandstone, very light-brown to pinkish-brown, fine- to coarse-grained (predominantly fine). Dolomite, light- to dark-brown, microcrystalline (dolosiltite), sandy; some pellets; minor

5675 - 5680 Sandstone, very light-brown, fine- to coarse-grained, poorly sorted, friable. Dolomite as above, minor

5680 - 5685 Dolomite as above. Sandstone as above, minor

5685 - 5690 Sandstone as above. Dolomite as above

5690 - 5700 Sandstone as above. Dolomite as above, in part pelletal (grain-supported), minor

5700 - 5705 Sandstone, very light-grayish-brown to light-brownish-gray, very fine- to coarse-grained (predominantly fine). Sandstone, very light-brown, medium- and coarse-grained; minor

5705 - 5720 Sandstone, very light-brown and very light-brownish-gray, very fine- to coarse-grained, friable, poorly sorted

5720 - 5745 Sandstone, very light-brownish-gray, fine- to very coarse-grained, predominantly medium- and coarse-grained, friable

TD 5745 feet

Licking County
Hartford Township
Lot 2, 3rd quarter

Howard D. Atha #1 Roberts
Permit No. 2057
Sample No. 1213
Elevation (KB) 1178 feet

Depth (ft)

3700 - 3745 Limestone, light- and medium-brown, lithographic and micrograined; pelletal in part; patches of microsucrosic dolomite

3745 - 3760 As above. Shale, light- and medium-green and grayish-green; heavy trace

3760 - 3765 Shale as above. Limestone as above

3765 - 3780 Limestone as above. Shale as above, heavy trace. Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline; heavy trace

3780 - 3785 As above. Dolomite, slightly argillaceous and sandy (very fine-grained sand) in part

3785 - 3800 Limestone as above. Dolomite, very light-brown and greenish-gray, microcrystalline (dolosiltite), silty, slightly sandy (very fine- to medium-grained sand); in part argillaceous. Shale as above, heavy trace

3800 - 3810 As above, predominantly sandy dolomite

3810 - 3820 Dolomite, light-brown, microcrystalline (dolosiltite) very sandy as above. Limestone as above, minor. Sandstone, fine- and medium-grained, siliceous (recrystallized grains); trace. KNOX DOLOMITE at 3805 feet (GRN)

3820 - 3830 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline

3830 - 3850 Dolomite, very light-brown, microcrystalline (dolosiltite)

3850 - 3900 Dolomite as in sample from 3820 to 3830 feet

3900 - 3920 Dolomite as above, very light yellowish brown, silty. "B zone"

3920 - 3935 Dolomite as above, light yellowish gray in part, grading into siltstone. Siltstone, slightly glauconitic; minor

3935 - 3980 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), silty

3980 - 4015 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), slightly silty

4015 - 4025 Dolomite as above, very finely crystalline in part, light yellowish gray in part

4025 - 4050 Dolomite as above, slight pinpoint porosity to 4050 feet

4050 - 4085 Dolomite as in sample from 4015 to 4025 feet, microcrystalline (dolomicrite and dolosiltite)

4085 - 4105 Dolomite, light-yellowish-gray and very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, silty

4105 - 4135 Dolomite, light-yellowish-gray and brown to medium-brown, microcrystalline (dolosiltite) to finely crystalline, slightly sandy (very fine- and fine-grained sand)

4135 - 4160 Dolomite as above, sandy to very sandy as above

4160 - 4185 Dolomite, light-yellowish-brown, microcrystalline (dolosiltite), slightly sandy (very fine-grained sand)

4185 - 4190 Dolomite as above and light brown. Sandstone, light-brown, very fine- and fine-grained, very dolomitic; trace

4190 - 4195 Dolomite as above, sandy (very fine- to medium-grained sand). Dolomite, dark-brown, microcrystalline (dolosiltite); pelletal (fine- and medium-grained, grain-supported) in part; heavy trace

4195 - 4205 Dolomite, very light-brown, microcrystalline, oolitic (coarse-grained, probably grain-supported)

4205 - 4210 Dolomite, light-yellowish-brown and brown, microcrystalline, sandy (very fine- and fine-grained sand)

4210 - 4220 Dolomite as above, medium brown and gray in part, pelletal (fine- and medium-grained, grain-supported) in small part

4220 - 4225 Dolomite, light-brown and grayish-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); pelletal in part (fine- and medium-grained, grain-supported). KERBEL FORMATION at 4220 feet

4225 - 4235 Dolomite as above, grading into sandstone. Sandstone, fine-grained; minor

4235 - 4245 Dolomite, light- and medium-brown, grading into sandstone. Sandstone, minor

4245 - 4250 Sandstone as above. Dolomite as above, minor

4250 - 4280 Sandstone as above, predominantly medium and coarse grained. Dolomite, very light-brown, microcrystalline (dolosiltite), very sandy; minor

4280 - 4285 Sandstone, fine- and medium-grained, dolomitic. Dolomite as above

4285 - 4305 Sandstone, very light-brown, fine-grained; some medium-sized grains. Dolomite, very light-brown, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand); trace

4305 - 4315 Sandstone, light-brownish-gray to grayish-brown, very fine- and fine-grained, slightly dolomitic. Dolomite as above, trace

4315 - 4325 Shale, dark-brown, silty, grading into siltstone. Sandstone, light-brown, very fine-grained. Dolomite, medium-brown, microcrystalline (dolosiltite), very silty, very slightly glauconitic; heavy trace. CONASAUGA FORMATION at 4315 feet

4325 - 4340 Sandstone, very light- and light-brown, very fine-grained, dolomitic, slightly glauconitic. Shale, medium-gray to greenish-gray, silty, micaceous; minor. Dolomite, light-yellowish-brown, microcrystalline (dolosiltite), sandy

(very fine-grained sand); minor

4340 - 4360 Dolomite as above. Dolomite, medium- to dark-brown, microcrystalline (dolosiltite), pelletal (medium-grained, grain-supported), very glauconitic; minor to 4350 feet. Sandstone as above, slightly micaceous, minor. Shale, dark-brown, glauconitic; heavy trace

4360 - 4370 Dolomite, light-yellowish-brown to dark-brown, microcrystalline (dolosiltite) and bioclastic, sandy (very fine- to medium-grained sand), micaceous; very glauconitic in part; grading into sandstone. Sandstone, light-yellowish-brown, very fine-grained; minor

4370 - 4400 Sandstone, light-yellowish-brown, light-brown, light-pinkish-brown, very fine- and fine-grained, slightly micaceous; very slightly glauconitic in small part

4400 - 4415 Sandstone as above, glauconitic in part. Dolomite, very light-brown and dark-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand); glauconitic in part. Shale, cavings

4415 - 4420 Dolomite, very light-brown to yellowish-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand). ROME FORMATION at 4410 feet (GRN)

4420 - 4425 Dolomite as above, light brown in part, pelletal in part (fine- and medium-grained, grain-supported), zoned in part

4425 - 4445 Dolomite as above. Sandstone, medium-brown, fine- and medium-grained, siliceous; trace

4445 - 4450 Dolomite, medium-brown, very finely crystalline, sandy (very fine-grained sand). Dolomite, light-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand), pelletal; minor

4450 - 4455 As above. Sandstone, very fine- and fine-grained, siliceous; trace

4455 - 4465 Dolomite, very light-brownish-gray, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- and fine-grained sand). Dolomite, medium brown as above, minor

4465 - 4470 Dolomite, very light-brownish-gray and brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand)

4470 - 4485 Dolomite, dark-brown, very finely crystalline, sandy; grading into fine-grained sandstone. Dolomite as above, very sandy (fine-grained sand), grading into sandstone

4485 - 4510 Dolomite, very light-brownish-gray and brown, microcrystalline (dolosiltite), very sandy; grading into sandstone. Sandstone, very fine- and fine-grained; minor

4510 - 4525 As above, some medium- and coarse-grained sand in dolomite and sandstone

4525 - 4540 As above, dolomite and sandstone in part medium gray

4540 - 4595 As in sample from 4510 to 4525 feet

4595 - 4635 Dolomite as above, pelletal in part. Sandstone as above, minor

4635 - 4645 Dolomite, very light- to dark-brown, grayish in part, microcrystalline (dolosiltite), sandy; grading into very fine- to medium-grained sandstone

4645 - 4655 As above. Dolomite, pelletal in part (medium-grained, grain-supported)

4655 - 4670 As above, sand in dolomite and sandstone very fine to coarse grained, dolomite predominantly dark brown

4670 - 4700 Dolomite, dark-brown, microcrystalline (dolosiltite), pelletal and oolitic (fine- and medium-grained, grain-supported), sandy; grading into sandstone. Sandstone, fine- and medium-grained; some coarse-sized grains; minor

4700 - 4710 Dolomite, very light-brown, microcrystalline (dolosiltite), sandy; grading into fine-grained sandstone with some medium- and coarse-sized grains. Dolomite, dark-brown, microcrystalline (dolosiltite), pelletal, sandy; minor

4710 - 4720 Sandstone, very light-brown and light-gray, predominantly fine-grained; grading into very sandy dolomite. Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), sandy, pelletal; minor

4720 - 4725 As above, pelletal dolomite containing scattered oolites

4725 - 4735 Pelletal and oolitic dolomite as above. Sandstone as above, trace

4735 - 4740 Dolomite as above. Sandstone as above, heavy trace

4740 - 4745 Sandstone, very light- and light-brown, fine- to coarse-grained, poorly sorted. Dolomite, dark-brown, microcrystalline (dolosiltite), pelletal, sandy to very sandy; minor

4745 - 4760 Dolomite as above, sandy in part, oolitic in part. Sandstone as above, trace

4760 - 4765 Dolomite, dark-brown, microcrystalline (dolosiltite), sandy; in part pelletal. Sandstone, very light-brown to colorless, fine- and medium-grained (predominantly fine); minor

4765 - 4790 Sandstone as above, fine- to coarse-grained, poorly sorted, friable. Dolomite as above, minor. MT. SIMON SANDSTONE at 4765 feet

4790 - 4800 Sandstone as above. Dolomite as above, trace

4800 - 4810 Sandstone, very light-brown to yellowish-gray, fine- to coarse-grained, fairly well sorted

4810 - 4815 Sandstone as above, poorly sorted, friable in part

4815 - 4850 Sandstone as above. Pelletal dolomite, trace

4850 - 4865 Sandstone as above

4865 - 4880 As in sample from 4815 to 4850 feet

4880 - 4890 Sandstone, pink and colorless, fine- to coarse-grained, poorly sorted

4890 - 4910 As above, predominantly coarse grained

4910 - 4915 As above. Granite gneiss, trace. PRECAMBRIAN at 4914 feet?

4915 - 4920 Sandstone as above. Gneiss(?) as above, minor to heavy trace

4920 - 4955 Gneiss(?) as above

TD 4955 feet

Licking County
Lima Township
Lot 16, 3rd quarter

Ashland Oil & Refining Co. #1 Schmelzer
Permit No. 2252
Sample No. 1717
Elevation (KB) 1068 feet

Depth (ft)

3500 - 3560 Limestone, very light-grayish-brown and light-brown, lithographic and micrograined. Shale cavings

3560 - 3580 Limestone as above, fine and medium grained. Shale, light-green; heavy trace. Sandstone, fine- and medium-grained; trace

3580 - 3600 Limestone as above. Shale as above, heavy trace

3600 - 3610 Dolomite, light-grayish-brown, micrograined, silty (Wells Creek). Limestone as above. Shale as above, heavy trace

3610 - 3630 As above, dolomite in part medium brown

3630 - 3640 Sandstone, very fine- and fine-grained, siliceous. Siltstone, light-greenish-gray, argillaceous, sandy (very fine-grained sand). Dolomite and limestone as above, heavy trace. Shale, light-green; heavy trace

3640 - 3650 Sandstone, very fine- to coarse-grained (predominantly very fine and fine). Shale cavings

3650 - 3660 Dolomite, light-gray and brownish-gray, microcrystalline (dolosiltite) and very finely crys-

talline, sandy, (very fine- to coarse-grained sand); pelletal in part (medium-grained, grain-supported). Sandstone as above, minor. KNOX DOLOMITE at 3623 feet (GRN)

3660 - 3670 Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite)

3670 - 3700 Dolomite as above, dolomicrite in part, light yellowish gray in part

3700 - 3710 Dolomite, light-yellowish-brown, grayish-brown, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline

3710 - 3730 Dolomite, light-yellowish-brown, microcrystalline (dolosiltite)

3730 - 3740 Dolomite as above, very finely crystalline

3740 - 3750 Dolomite, light-yellowish-gray and yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline

3750 - 3780 Dolomite, light-yellowish-brown and brown, microcrystalline (dolosiltite) and very finely sucrosic in part

3780 - 3790 Dolomite, light-yellowish-gray to very light-gray, light-brown, microcrystalline (dolosiltite), silty. Chert, white, trace. Top of "B zone"

3790 - 3800 Dolomite as above, very finely sucrosic in part

3800 - 3830 Dolomite as above, very slightly glauconitic in part. Sandstone, light-yellowish-gray, very fine-grained, dolomitic, slightly glauconitic; heavy trace to trace

3830 - 3850 Sandstone, very light-brown and brownish-gray, very fine-grained, dolomitic, very slightly glauconitic

3850 - 3870 Sandstone as above, silty, grading into siltstone

3870 - 3880 Sandstone and siltstone as above. Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline

3880 - 3910 Dolomite, light- and medium-brown, finely crystalline and sucrosic, pyritic. Dolomite, very light-gray to light-yellowish-gray, microcrystalline (dolosiltite), silty

3910 - 3920 Brown dolomite as above, microcrystalline in part

3920 - 3930 Dolomite, very light-gray and grayish-brown, and light-brown, microcrystalline (dolomicrite and dolosiltite)

3930 - 3990 Dolomite, light-yellowish-gray, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline

3990 - 4140 Dolomite, light-yellowish-gray and brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand), slightly glauconitic. Sandstone, very light-gray, very fine- and fine-grained; slightly glauconitic in part; in thin streaks

4140 - 4150 Dolomite, very light-gray and brown, microcrystalline (dolosiltite), pelletal, sandy to very sandy (very fine- to medium-grained sand); grading into sandstone. KERBEL FORMATION at 4140 feet

4150 - 4170 Dolomite, very light-brown, microcrystalline (dolosiltite), pelletal, sandy to very sandy, grading into very fine- to coarse-grained sandstone. Dolomite, medium-brown, microcrystalline (dolomicrite); heavy trace

4170 - 4180 Sandstone, very light-brown, very fine- and fine-grained, dolomitic

4180 - 4230 As above, some medium- and coarse-grained sand

4230 - 4240 Shale, medium- to dark-brown; very silty in part. Sandstone, very light- and light-brown and medium-brownish-gray, very fine- and fine-grained; glauconitic in part; silty in part. Dolomite, medium- and dark-brown, microcrystalline (dolomicrite and dolosiltite), very silty; heavy trace. CONASAUGA FORMATION at 4230 feet

4240 - 4250 As above, sandstone and dolomite micaceous

4250 - 4270 Sandstone, very light- to medium-brown, very fine- and fine-grained, micaceous, silty, slightly glauconitic. Shale as above, minor

4270 - 4280 As above, sandstone grading in part into siltstone

4280 - 4290 Sandstone as in sample from 4250 to 4270 feet, dolomitic

4290 - 4310 Sandstone, very light-brown, very fine- and fine-grained, slightly glauconitic, dolomitic, slightly micaceous

4310 - 4330 Sandstone as above, slightly grayish brown in part. Dolomite, very light-yellowish-brown to light-yellowish-gray, microcrystalline (dolosiltite), slightly sandy (very fine-grained sand). ROME FORMATION at 4321 feet (GRN)

4330 - 4350 Dolomite as above, light brown in part, microcrystalline (dolomicrite and dolosiltite). Sandstone as above, trace

4350 - 4360 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline; sandy in part (very fine- and fine-grained sand)

4360 - 4410 Dolomite, light-yellowish-gray and very light-gray, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand). Dolomite as above, minor

4410 - 4420 Dolomite, light-yellowish-gray, very light- and light-gray, microcrystalline (dolomicrite and dolosiltite); slightly sandy in part (very fine- and fine-grained sand)

4420 - 4430 As above. Sandstone, very light-brown and gray, fine-grained, dolomitic; trace

4430 - 4470 Dolomite as above, sandy. Sandstone as above, trace

4470 - 4480 As above, some medium- and coarse-grained sand in sandstone and dolomite

4480 - 4490 Dolomite as above, sandy to very sandy. Sandstone as above, heavy trace

4490 - 4500 Dolomite, light-yellowish-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- to coarse-grained sand, predominantly fine); grading into sandstone. Sandstone, minor

4500 - 4520 Dolomite, light-yellowish-gray, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- and fine-grained sand)

4520 - 4530 Dolomite as above, light yellowish gray

4530 - 4560 Dolomite, light-yellowish-gray, very light- and light-gray, brown, microcrystalline (dolomicrite and dolosiltite, minor amount very finely crystalline), sandy (very fine- and fine-grained sand)

4560 - 4570 Dolomite as above, medium-brown in part, sandy to very sandy as above

4570 - 4610 Dolomite, light-yellowish-gray, light- to dark-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand, predominantly very fine and fine), pelletal (medium-grained, grain-supported); some oolites (medium-grained, sand-centered)

4610 - 4620 As above, some coarse-grained sand in dolomite

4620 - 4630 Sandstone, very light-gray to light-yellowish-gray, very fine- to coarse-grained, poorly sorted, dolomitic to very dolomitic. Pelletal dolomite as above, very sandy (very fine- to coarse-grained sand); trace

4630 - 4650	Sandstone as above. Dolomite as above, heavy trace
4650 - 4660	Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand), pelletal and oolitic. Sandstone, very light-brown, fine- and medium-grained; minor
4660 - 4670	As above, dolomite dark gray in part
4670 - 4710	Sandstone, light-yellowish-gray, light- and medium-brown, very light-pinkish-gray, very fine- to coarse-grained, poorly sorted. Dolomite as above, heavy trace. MT. SIMON SANDSTONE at 4670 feet
4710 - 4780	Sandstone as above. Sandstone, light- and medium-gray
4780 - 4790	Sandstone, very light-brown and gray, very fine- to coarse-grained. Sand, coarse-grained. Chlorite, trace. PRECAMBRIAN at 4789 feet?
4790 - 4802	Hornblende schist. Quartz(?), pink; coarse angular fragments. Chlorite, heavy trace
	TD 4802 feet

Licking County
Mary Ann Township
Lot 15, 1st quarter

Lake Shore Pipe Line Co.
#1 Crowley
Permit No. 1826
Sample No. 1062
Elevation (KB) 1060 feet

Depth (ft)	
4694 - 4704	Limestone, medium-brown, lithographic to dense, slightly fossiliferous (brachiopod); slightly pyritic in part; patches of euhedral dolomite crystals
4704 - 4722	Limestone as above, in part very light brownish gray. Dolomite, dark-brown, microcrystalline (dolosiltite); minor. Shale, dark-brown; heavy trace
4722 - 4732	Limestone as above
4732 - 4745	Limestone as above. Shale, dark-greenish-gray; heavy trace
4745 - 4764	Limestone as above. Shale as above, minor
4764 - 4772	As in sample from 4732 to 4745 feet
4772 - 4780	Limestone, light- and medium-brown, lithographic. Dolomite, dark-brown, microcrystalline (dolosiltite); trace
4780 - 4804	Limestone as above. Shale, dark-grayish-brown; heavy trace
4804 - 4812	Limestone as above. Shale, medium-gray to greenish-gray, pyritic, silty, sandy (rounded frosted fine-grained sand)
4812 - 4819	Dolomite, very light-gray to brownish-gray, microcrystalline (dolosiltite), silty. Shale as above, minor. Sand, fine-grained, rounded and frosted; trace
4819 - 4826	Shale as above. Dolomite as above. Dolomite, light-gray to greenish-gray, microcrystalline (dolosiltite), very silty; argillaceous in part. Sand, fine to coarse, rounded and frosted; trace
4826 - 4835	As above. Dolomite, medium-brown, microcrystalline (dolosiltite)
4835 - 4840	Shale, light-grayish-green, dolomitic to very dolomitic; pyritic in part. Dolomite as above, heavy trace. Sand as above, trace
4840 - 4844	Shale as above. Sandstone, very light-gray, very fine-grained, dolomitic, silty; some fine- to coarse-grained sand
4844 - 4847	Sandstone as above, much rounded and frosted medium-grained sand. Shale as above, trace
4847 - 4854	Dolomite, very light-grayish-brown to light-brown, microcrystalline and very finely crystalline (dolosiltite); pelletal in part. Sand, fine- and medium-grained, rounded and frosted; minor. KNOX DOLOMITE at 4853 feet (GRN)
4854 - 4864	Dolomite as above, microcrystalline. Dolomite, light-gray, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand). Sand as above, heavy trace
4864 - 4873	Dolomite, very light-gray to brownish-gray and grayish-brown, microcrystalline (dolosiltite), sandy (fine-grained sand). Sand as above, heavy trace
4873 - 4954	Dolomite as above
4954 - 4962	Dolomite as above, very finely crystalline in part
4962 - 4967	Dolomite as above. Siltstone, very light-gray, slightly dolomitic, slightly glauconitic
4967 - 4990	As above. Siltstone, medium-gray, slightly argillaceous, glauconitic, trace. Sand, very fine- and fine-grained, subrounded; trace
4990 - 4994	Dolomite as above. Siltstone as above, trace
4994 - 5001	Dolomite, light- and medium-brown, microcrystalline and very finely crystalline (dolosiltite). Siltstone, very light- to medium-gray, glauconitic (very fine); argillaceous in part
5001 - 5014	Dolomite as above. Shale, medium-gray to greenish-gray. Siltstone as above, minor
5014 - 5020	Shale and siltstone as above. Dolomite as above, minor
5020 - 5031	Siltstone as above. Dolomite and shale as above, heavy trace
5031 - 5036	Dolomite, very light-gray to very light-brownish-gray, microcrystalline. Shale, light-green; trace. Siltstone, light-gray; trace
5036 - 5045	Dolomite as above
5045 - 5068	Siltstone, very light-gray to brownish-gray, very dolomitic. Dolomite, light-brown, microcrystalline (dolosiltite); minor from 5064 to 5068 feet
5068 - 5083	Dolomite as above. Dolomite, very light-gray to brownish-gray and medium-brown. Very fine sample
5083 - 5086	Dolomite as above (dolomicrite and dolosiltite)
5086 - 5093	Dolomite, very light- and light-brown, very finely crystalline. Chert, white; trace. Very fine sample
5093 - 5104	Dolomite, very light-brown, microcrystalline (dolosiltite). Very fine sample
5104 - 5123	Dolomite as above, very finely crystalline(?) and microcrystalline (dolosiltite?). Very fine sample
5123 - 5140	Dolomite, light-yellowish-gray and gray to very light-brown. Powdery fine sample
5140 - 5153	Dolomite, light-yellowish-gray to very light-brown, microcrystalline (dolosiltite). Very fine sample
5153 - 5155	As in sample from 5123 to 5140 feet
5155 - 5176	Dolomite as in sample from 5140 to 5153 feet
5176 - 5182	Dolomite in sample from 5123 to 5140 feet
5182 - 5236	Dolomite as in sample from 5140 to 5153 feet
5236 - 5274	Dolomite, very light-brownish-gray to gray and yellowish-gray, microcrystalline and very finely crystalline (dolosiltite)
5274 - 5283	Dolomite as above, sandy to very sandy (subrounded and rounded very fine- to medium-grained sand, frosted in part)
5283 - 5290	Dolomite as above. Dolomite, light-gray and brownish-gray, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand)
5290 - 5293	No samples
5293 - 5298	Light-gray and brownish-gray dolomite as above, sandy (very fine- to medium-grained sand). KERBEL FORMATION at 5293 feet
5298 - 5301	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite); sandy as above
5301 - 5306	Dolomite as above. Dolomite, medium-gray, microcrystalline (dolosiltite), silty; brownish in part

5306 - 5311 Dolomite, very light-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand)
5311 - 5314 Dolomite as above, very light brownish gray
5314 - 5316 Dolomite, light-brown, microcrystalline (dolosiltite), silty, grading into siltstone. Siltstone, minor
5316 - 5319 Dolomite as in sample from 5311 to 5314 feet, silty, nonsandy
5319 - 5327 Dolomite as above, sandy (subangular to rounded fine- and medium-grained sand, frosted in part)
5327 - 5330 Dolomite as above. Dolomite, light grayish brown in part
5330 - 5334 Dolomite, very light-brownish-gray, microcrystalline, very sandy, grading into sandstone. Sandstone, very fine- to medium-grained; grains subangular to rounded, frosted in part, may be broken in part
5334 - 5337 No samples
5337 - 5341 As in sample from 5330 to 5334 feet
5341 - 5349 No samples
5349 - 5350 As in sample from 5330 to 5334 feet, dolomite in part broken
5350 - 5352 As in sample from 5330 to 5334 feet
5352 - 5375 As above, predominantly fine-grained dolomitic sandstone, becoming predominantly very fine grained at 5370 feet
5375 - 5383 Sandstone, light-brownish-gray, very fine-grained, silty, dolomitic. Dolomite, dark-gray, microcrystalline, very argillaceous; minor. CONASAUGA FORMATION at 5375 feet
5383 - 5385 Dolomite, light-brownish-gray to medium-brown, microcrystalline (dolosiltite), very silty and sandy (very fine-grained); grading into siltstone and sandstone
5385 - 5396 Sandstone, very light-brownish-gray, very fine-grained, dolomitic. Siltstone, very light-brownish-gray, dolomitic; minor. Shale, medium- and dark-brown, very dolomitic; heavy trace, becoming subequal at 5389 feet
5396 - 5401 Sandstone, very light-brownish-gray to light-gray, very fine-grained, silty, slightly glauconitic, very slightly dolomitic. Shale, dark-gray to brown; minor
5401 - 5403 Sandstone as above. Shale as above
5403 - 5406 Sandstone as above. Shale as above, minor
5406 - 5416 Siltstone, very light-brownish-gray to light-gray, dolomitic, very slightly glauconitic. Shale, dark-gray to brownish-gray; heavy trace
5416 - 5418 As above, some coarse glauconitic pellets
5418 - 5480 No samples. ROME FORMATION at 5439 feet (GRN)
5480 - 5500 Dolomite, light-gray to brownish-gray, microcrystalline (dolomicrite and dolosiltite); sandy to very sandy in part (very fine- to medium-grained sand); some very fine-grained pellets
5500 - 5535 As above, trace vuggy porosity to 5505 feet, dolomite only very slightly sandy (very fine- and fine-grained sand)
5535 - 5585 Dolomite, very light-gray to light-brownish-gray, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- and fine-grained sand). Dolomite, medium- to dark-brown, microcrystalline, sandy (very fine-grained sand); pelletal and oolitic (very fine- and fine-grained, sand-centered, grain-supported) in large part; very light-gray to light-brownish-gray dolomite probably pelletal
5585 - 5595 Very light-gray and brownish-gray dolomite as above, some pellets and oolites. Brown dolomite as above, heavy trace. Shale, medium-grayish-green, dolomitic, silty, sandy (very fine- and fine-grained sand); heavy trace
5595 - 5625 Dolomite, very light- and light-gray, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine-grained sand); very fine and fine crystals in some of the matrix
5625 - 5675 Dolomite as above, predominantly dolosiltite, sandy as above
5675 - 5725 Dolomite as above. Dolomite, light-brown; sandy to very sandy as above, pelletal and oolitic in part (very fine- and fine-grained, grain-supported in part)
5725 - 5745 Dolomite as above. Dolomite, medium- and dark-brown, microcrystalline, pelletal and oolitic (fine-grained, grain-supported), slightly sandy (very fine-grained sand); in streaks
5745 - 5770 As above, predominantly medium- and dark-brown dolomite
5770 - 5790 As above, some rounded and frosted medium- and coarse-grained sand in dolomite
5790 - 5815 Dolomite as above, very sandy in part (predominantly very fine- and fine-grained sand). Sandstone, very light-gray and brown, fine-grained, dolomitic; trace
5815 - 5820 No samples
5820 - 5845 As in sample from 5790 to 5815 feet
5845 - 5855 Dolomite as above. Sandstone, white and very light-brownish-gray, siliceous, fine- to coarse-grained (predominantly fine and medium); minor
5855 - 5865 Dolomite as above. Sandstone as above, heavy trace to trace
5865 - 5870 As in sample from 5845 to 5855 feet
5870 - 5875 Sandstone as above, poorly sorted. Dolomite as above, minor. MT. SIMON SANDSTONE at 5870 feet
5875 - 5880 Sandstone as above. Dolomite as above, trace
5880 - 5895 Sandstone as above, friable, grains subrounded and rounded, frosted
5895 - 5905 Sandstone as above. Sandstone, light-brown, slightly dolomitic, silty; heavy trace
5905 - 5925 As above. Sandstone, fine-grained, silty, argillaceous; in part dark gray; heavy trace
5925 - 5975 Sandstone as in sample from 5880 to 5895 feet
5975 - 5980 Sandstone as above. Granite gneiss. PRECAMBRIAN at 5978 feet
5980 - 5991 Gneiss. Sandstone as above, minor
TD 5991 feet

Logan County
McArthur Township
VMSL 9930

Ohio Oil Co. #1 Johns
Permit No. 18
Sample No. 192
Elevation (G) 1190 feet

Depth (ft)
1975 - 1985 Limestone, light-brown to grayish-brown, lithographic; some pieces with sucrosic dolomite crystals. Dolomite, light- and medium-brown, microsucrosic to very finely sucrosic, trace
1985 - 1995 As above, limestone in large part pelletal (very fine-grained, mud-supported)
1995 - 2005 As in sample from 1975 to 1985 feet, limestone pelletal in part
2005 - 2020 Limestone, very light-brownish-gray to light-brown, lithographic, fossiliferous (ostracods); much sucrosic dolomite
2020 - 2025 Limestone as above. Shale, medium- and dark-greenish-gray
Core samples from 2026 to 2075 feet
2025 - 2028 Limestone, very light-brown, lithographic. Shale, light-green, medium- and dark-greenish-gray, pyritic; minor
2028 - 2046 Limestone, very light- and light-brown, lithographic to medium-grained, fossiliferous

(brachiopods); recrystallized in part; some sucrosic dolomite. Dolomite, very light-brown, microcrystalline and very finely crystalline (dolosiltite), minor to heavy trace. Shale as above, minor

2046 - 2063 Shale, light-green; silty in part. Limestone, light- and medium-brown, lithographic and micrograined; argillaceous in part; silty in part; dolomitic in part. Dolomite as above, heavy trace

2063 - 2069 Shale as above. Dolomite, very light- and light-gray, light-greenish-gray, micrograined (dolosiltite), argillaceous, slightly silty. Limestone as above, heavy trace

2069 Siltstone, light-gray to greenish-gray, microcrystalline (dolosiltite), very slightly glauconitic, dolomitic

2070 Dolomite, light-brown, very finely and finely crystalline; poor pinpoint and vuggy porosity

2071 Dolomite as above, coarsely sucrosic in part. Siltstone as at 2069 feet. KNOX DOLOMITE at 2069 feet

2072 Dolomite, light- and medium-brown, very finely and finely crystalline; poor pinpoint porosity

2073 Dolomite as above, fair pinpoint to vuggy porosity, pods of very light-brown clay that swell in water and show slickensides

2074 Dolomite as above, without clay

2075 Dolomite as above, fair to excellent porosity as above

2076 - 2090 Dolomite as above, porosity not evident

2090 - 2105 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline; fine grained in part. Dolomite, light-bluish-green, very finely crystalline; trace. Gypsum, trace from 2100 to 2105 feet

2105 - 2120 Brown dolomite as above, finely crystalline in part. Gypsum, trace from 2115 to 2120 feet

2120 - 2160 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline. Gypsum, trace from 2150 to 2155 feet

2160 - 2175 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline; granular looking in part. Gypsum, trace

2175 - 2220 Dolomite, very light- and light-brown, very light-gray to brownish-gray, microcrystalline (dolosiltite)

2220 - 2235 Dolomite, very light- and light-brown, very light-brownish-gray, microcrystalline (dolosiltite) and very finely crystalline

2235 - 2260 Dolomite as above, microcrystalline (dolosiltite) to finely crystalline. Gypsum, trace from 2255 to 2260 feet

2260 - 2270 Dolomite, very light-brownish-gray to medium-brown, microcrystalline (dolosiltite) to finely crystalline; granular looking in part. Gypsum, trace

2270 - 2275 Dolomite as above, predominantly very finely and finely crystalline, granular looking

2275 - 2285 Dolomite as in sample from 2260 to 2270 feet

2285 - 2305 Dolomite, very light-grayish-brown and brownish-gray to gray, light-brown, microcrystalline (dolosiltite) to finely crystalline

2305 - 2320 Dolomite, light-yellowish-gray and very light-brown, microcrystalline (dolosiltite) to finely crystalline; medium-crystalline sucrosic dolomite (secondary)

2320 - 2330 Dolomite as above, predominantly finely crystalline

2330 - 2335 Dolomite as in sample from 2305 to 2320 feet

2335 - 2350 Dolomite, very light-brownish-gray, medium-brown, microcrystalline (dolosiltite) to finely crystalline; granular looking in part

2350 - 2355 Dolomite, very light-brownish-gray, very light-brown, microcrystalline (dolosiltite) to finely crystalline

2355 - 2375 Dolomite as in sample from 2335 to 2350 feet

2375 - 2395 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline. Gypsum, trace

2395 - 2460 Dolomite, very light-brownish-gray to medium-brown, microcrystalline (dolosiltite) to finely crystalline. Gypsum, trace, from 2410 to 2425, 2430 to 2445 feet

2460 - 2475 Dolomite as above, predominantly very light brownish gray

2475 - 2490 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline (predominantly microcrystalline), slightly silty and sandy (very fine-grained sand), very slightly glauconitic; in part pelletal (fine-grained, grain-supported)

2490 - 2495 Dolomite as above, very sandy (very fine- and fine-grained sand), grading into sandstone. Sandstone minor. KERBEL FORMATION at 2490 feet

2495 - 2500 As above. Sandstone, medium-brown, slightly grayish, very fine- and fine-grained, slightly dolomitic; heavy trace

2500 - 2510 Grayish-brown sandstone as above. Dolomite, very light-grayish-brown and light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy (very fine- and fine-grained sand); 10%

2510 - 2520 Sandstone as above. Dolomite as above, trace. Siltstone, light-brown, slightly grayish, dolomitic. EAU CLAIRE FORMATION at 2515 feet

2520 - 2525 Siltstone, very light- and light-brown, dolomitic; grayish in part

2525 - 2530 Siltstone as above, medium brown in part. Dolomite, very light-brown, microcrystalline (dolosiltite) to finely crystalline, slightly sandy (very fine-grained sand), slightly glauconitic; 30%

2530 - 2535 Dolomite as above, dark brown in part, 90%. Shale, dark-grayish-brown; 10%

2535 - 2540 Dolomite, very light-grayish-brown, yellowish-gray, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline, sandy to very sandy; argillaceous in part; 75%; grading into sandstone. Sandstone, very fine-grained, silty, slightly glauconitic; 20%. Shale, dark-brown and grayish-brown; 5%. Shale, light-green, dolomitic; trace

2540 - 2545 Sandstone as above, 60%. Dolomite as above, 40%

2545 - 2555 Sandstone, light-brownish-gray to grayish-brown to medium-brown, very fine- and fine-grained, silty, glauconitic, dolomitic; 80%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), sandy and silty; 20%. Shale as above, trace

2555 - 2560 Sandstone, light-grayish-brown, very fine-grained, dolomitic, slightly glauconitic. Shale as above, trace. Dolomite as above, trace

2560 - 2575 Sandstone as above, 90%. Shale as above, silty, 10%. Dolomite as above, trace

2575 - 2580 Sandstone as above, 50%. Shale, medium-grayish-brown to dark-gray; 50%

2580 - 2590 Sandstone as above, fine grained in part, 70%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to medium-crystalline, slightly glauconitic, sandy (very fine- to medium-grained sand); 20%. Shale as above, 10%

2590 - 2595 Sandstone, very light-brown, yellowish-gray, pinkish-brown, dolomitic, very fine- and fine-grained, glauconitic, 90%. Shale as above, 10%

2595 - 2605 As above, some medium- and coarse-grained sand in sandstone

2605 - 2620 Sandstone as above, 80%. Shale, medium-gray to dark-brown; 20%

2620 - 2630 Sandstone, very light- and light-brown, grayish-brown, very fine- and fine-grained, dolomitic, micaceous, slightly glauconitic; 55%. Shale, medium-gray, greenish-gray, dark-brown; 40%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to medium-crystalline, sandy, slightly glauconitic; 5%

2630 - 2635 Shale, medium-gray and greenish-gray; 70%. Sandstone, very light-grayish-brown and light-brown, very fine- and fine-grained, dolomitic, slightly glauconitic; 30%. Limestone, light-brown, gray, lithographic; trace

2635 - 2640 Shale as above, 50%. Dolomite, light-yellowish-gray, light-brown, microcrystalline (dolomicrite) to medium-crystalline, sandy (very fine- and fine-grained sand); 40%. Sandstone, light-brown, very light-grayish-brown, very fine- and fine-grained, dolomitic, fossiliferous (brachiopods), slightly glauconitic; 10%

2640 - 2645 Shale as above, trace of red shale, 40%. Dolomite as above, 40%. Sandstone as above, 20%

2645 - 2650 Sandstone, very light-gray, light-pinkish-yellow, light-brown, very fine- and fine-grained, dolomitic, slightly glauconitic; 40%. Dolomite as above, 30%. Shale, medium-greenish-gray to dark-gray; 30%

2650 - 2655 Shale, medium-gray, greenish-gray, brownish-gray, silty; 60%. Sandstone as above, 30%. Dolomite, very light-gray, light-brown, microcrystalline (dolosiltite) to medium-crystalline, slightly glauconitic, sandy (very fine- and fine-grained sand); 10%

2655 - 2660 Sandstone as above, 40%. Dolomite as above, 30%. Shale as above, medium brown in part, 30%

2660 - 2670 Shale, medium- and dark-gray, greenish-gray, grayish-brown; micaceous in part; 60%. Siltstone, light-brownish-gray and grayish-brown, fossiliferous, dolomitic, slightly glauconitic; 30%. Dolomite as above, 10%

2670 - 2675 Shale, medium-gray, greenish-gray, brown; 70%. Siltstone as above, medium brown in part, 30%. Dolomite as above, trace

2675 - 2685 Shale, medium-gray, greenish-gray; 60%. Dolomite, light- and medium-brown, very light-gray, microcrystalline (dolosiltite) to finely crystalline, slightly glauconitic, sandy (very fine-grained sand); 30%. Siltstone as above, 10%

2685 - 2700 Dolomite as above, 50%. Shale as above, 40%. Siltstone, very light-brown, brownish-gray, slightly glauconitic, micaceous; 10%

2700 - 2705 Dolomite, very light-gray, medium-crystalline, glauconitic; 50%. Shale as above, 30%. Siltstone, medium-brown, light- and medium-grayish-brown, glauconitic, slightly dolomitic; 10%

2705 - 2715 Siltstone as above, 70%. Dolomite as above, 20%. Shale, medium-gray, greenish; trace reddish-brown; 10%

2715 - 2720 Siltstone, very light- to medium-brown, dolomitic, glauconitic, micaceous; 85%. Dolomite, very light-gray, medium-crystalline, glauconitic; 10%. Shale, medium-gray, greenish-gray, silty; 5%

2720 - 2725 Siltstone as above, 90%. Shale as above, 10%. Dolomite as above, trace

2725 - 2730 Siltstone, pinkish-yellow, very light- to medium-brown, micaceous, glauconitic, slightly dolomitic, sandy (very fine-grained sand); 80%. Shale as above, 20%

2730 - 2745 Siltstone as above, 90%. Shale as above, 10%. Dolomite, very light-gray, medium-crystalline, glauconitic; trace

2745 - 2755 Sandstone, very light- and light-brown, light-pinkish-brown, very fine- and fine-grained, slightly glauconitic, slightly dolomitic. Shale as above, trace

2755 - 2770 Sandstone as above

2770 - 2785 Sandstone, very light- and light-brown, very fine- and fine-grained, slightly dolomitic

2785 - 2795 Sandstone as above, 95%. Shale, medium-gray to greenish-gray; 5%

2795 - 2805 Sandstone as above, slightly glauconitic, 90%. Shale as above, 10%

2805 - 2815 Sandstone as above, glauconitic, 80%. Shale as above, 20%

2815 - 2840 As above, sandstone fossiliferous, in part light pinkish gray and pinkish brown

2840 - 2845 Sandstone, light-brown, pinkish-brown, pinkish-gray, very fine- and fine-grained, glauconitic; 80%. Shale as above, 20%

2845 - 2860 Sandstone as above, 60%. Shale as above, 40%

2860 - 2870 Sandstone as above, 75%. Shale as above, 25%

2870 - 2875 As above, shale glauconitic, in part brownish red. Gypsum, trace

2875 - 2900 Sandstone as above, 90%. Shale, light-green, medium-gray to greenish-gray; 10%

2900 - 2910 Sandstone as above, 85%. Shale as above, 10%. Siltstone, light- and medium-gray and brown, glauconitic; micaceous in part; 5%

2910 - 2925 As above, some medium- and coarse-grained sand in sandstone. Dolomite, light-yellowish-gray, finely and medium-crystalline; trace

2925 - 2930 Dolomite, light-yellowish-gray, light-brown, microcrystalline (dolomicrite and dolosiltite), sandy; some oolites (fine-grained); grading into fine-grained sandstone (some medium- and coarse-grained sand); 70%. Sandstone, light-pinkish-yellow, pinkish-brown, light-brown, very fine- and fine-grained; glauconitic in part; 30%. Shale, medium-grayish-brown, silty; trace

2930 - 2935 Dolomite as above, 90%. Glauconitic sandstone as above, 10%. Shale as above, trace

2935 - 2945 Sandstone, light-yellowish-gray and very light-brown, fine- and medium-grained (predominantly fine), dolomitic to very dolomitic. Glauconitic sandstone as above, trace

2945 - 2965 Sandstone, very light-brown and light-yellowish-gray, fine- to coarse-grained, poorly sorted, dolomitic to very dolomitic, some fine- and medium-grained oolites. MT. SIMON SANDSTONE at 2945 feet (very gradational contact)

2965 - 2970 Sandstone as above, 90%. Siltstone, dark-brown, sandy (very fine-grained sand), slightly dolomitic; 10%

2970 - 2975 Sandstone as above, very fine grained in part, 70%. Siltstone as above, 30%

2975 - 2980 Sandstone, very light-brown, light-yellowish-gray, very light- to light-grayish-brown, very fine- and fine-grained; some medium- and coarse-grained sand; 90%. Siltstone as above, 10%

2980 - 2985 Sandstone as above, slightly argillaceous in part, 85%. Siltstone as above, 10%. Shale, silty, light- and medium-gray, medium- and dark-brown; 5%

2985 - 2990 Sandstone as above. Siltstone and shale as above, trace

2990 - 2995 Sandstone, light-pinkish-yellow, light-yellowish-gray, very light-grayish-brown, very fine-

to coarse-grained, dolomitic; slightly glauconitic in part; 95%. Siltstone, medium- and dark-brown, sandy (very fine-grained sand); 5%. Shale, medium- and dark-gray; trace

2995 - 3000 Sandstone as above, predominantly very fine- and fine-grained, nonglauconitic. Siltstone as above, trace

3000 - 3010 As above. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), oolitic (fine-grained, grain- and mud-supported), very sandy (very fine- and fine-grained sand); trace

3010 - 3030 Sandstone, light-yellowish-gray and very light-brown, very fine- and fine-grained, slightly dolomitic to dolomitic; some medium- and coarse-grained sand. Dolomite as above, trace

3030 - 3050 Sandstone as above, very light grayish brown in small part, 95%. Siltstone, medium-brown, sandy (very fine-grained sand), slightly dolomitic; 5%

3050 - 3060 As above. Sandstone, very fine- to coarse-grained, friable

3060 - 3062 Sandstone, light-pinkish-yellow to yellowish-gray, very fine- and fine-grained, slightly dolomitic

3063 Sandstone as above. Sandstone, very light-grayish-brown, very fine-grained, silty; trace. Dolomite, light-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand); some fine-grained oolites; trace

Core chips from 3064 to 3073 feet

3064 - 3071 Sandstone, light-pinkish-yellow, very fine- and fine-grained; some medium- and coarse-grained sand

3071 Sandstone, very light-brownish-gray, very fine- and fine-grained, fossiliferous (brachiopods); dark-brown argillaceous partings

3072 Sandstone as above, light pinkish gray in part

3073 Sandstone, light-brownish-gray, fine-grained, fossiliferous (brachiopods); some medium- and coarse-grained sand

3074 - 3110 Sandstone as above and very light pinkish gray

3110 - 3135 Sandstone, light-pink, very light- and light-brownish-gray, poorly sorted (very fine- to coarse-grained, predominantly fine-grained). Shale, medium-green, sandy; trace

Core chips from 3137 to 3142 feet

3137 - 3138 Sandstone, pink, very fine- and fine-grained

3139 Sandstone, very light-pinkish-gray, fine-grained

3140 Sandstone as above, pink, argillaceous dark-brown and gray blebs

3141 Sandstone as in 3139-foot sample

3142 Sandstone, pink and medium-brownish-gray, very fine- and fine-grained; argillaceous in part

3143 - 3150 Sandstone, pink- and light-pinkish-gray, very fine- and fine-grained. Shale, medium- to dark-gray; trace

3150 - 3160 Sandstone as above, some medium- and coarse-grained sand, 90%. Siltstone, dark-red, argillaceous; 10%

3160 - 3170 As above, sandstone poorly sorted, very fine to coarse grained, dark red in part

3170 - 3185 Sandstone, pink, dark-red, greenish-gray, very light-gray and pinkish-gray, very fine- to coarse-grained, poorly sorted. Shale, dark-red, silty; heavy trace

3185 - 3190 Sandstone as above. Shale as above, trace

3190 - 3195 Sand, coarse-grained, predominantly pink, subrounded and rounded, frosted; 90%. Sandstone as above, 10%

3195 - 3205 Sandstone, red, fine- to coarse-grained; much secondary crystallization on quartz grains; 95%. Shale, dark-gray and greenish-gray; 5%. Siltstone, light-brownish-gray, glauconitic; trace

3205 - 3215 Sandstone as above, predominantly medium grained, some coarse-grained sand

3215 - 3250 Sandstone, red and very light-pink, fine-grained, some medium- and coarse-grained sand. Shale, light-gray to greenish-gray; trace

3250 - 3255 Sandstone as above. Rhyolite, red and greenish-yellow. PRECAMBRIAN at 3252 feet. See McCormick (1961, p. 38) for detailed description

TD samples 3361 feet

Lorain County
Henrietta Township
Lot 8, SW quarter

East Ohio Gas Co. #1 Born
Permit No. 794
Sample No. 894
Elevation (DF) 850 feet

Depth (ft)

3903 - 3934 Limestone, very light-brownish-gray, light- and medium-brown, lithographic to fine-grained, fossiliferous (ostracods); dolomitic in part

3934 - 3940 Shale, very dark-gray to black. Limestone as above, dark brown in part, minor

3940 - 3952 Limestone as above. Shale, medium- to dark-gray to greenish-gray, pyritic; heavy trace

3952 - 3959 Shale as above, light greenish gray and silty in part, grading into siltstone. Siltstone, very light-gray, very dolomitic. Limestone as above

3959 - 3971 Shale, light-green to dark-grayish-green, silty. Siltstone, very light-gray, light-brown, light-greenish-gray, dolomitic. Limestone as above, heavy trace

3971 - 3978 Shale as above, heavy trace. Sandstone, light-gray, very light-brown, very fine-grained, slightly dolomitic, very slightly glauconitic; some fine-grained sand. KNOX DOLOMITE at 3971 feet (GRN)

3978 - 3984 Siltstone, very light- and light-gray, dolomitic; some fine- and medium-grained sand

3984 - 3990 Siltstone as above. Shale and limestone as in sample from 3959 to 3971 feet, trace

3990 - 3996 Shale, light-greenish-gray, dolomitic; minor amount very dark brown. Siltstone, very light- and light-gray, light-brown, slightly sandy (very fine-grained sand), dolomitic; micaceous in small part

3996 - 4004 Siltstone, light-gray and medium-brown, dolomitic

4004 - 4013 Siltstone, very light-brown to light-yellowish-gray, slightly glauconitic, dolomitic, grading into dolomite. Dolomite, minor

4013 - 4024 Siltstone, very light- and light-brown, very slightly glauconitic, dolomitic to very dolomitic; slightly grayish in part. Shale cavings

4024 - 4031 Siltstone, very light- and light-brown, dolomitic, micaceous, slightly glauconitic. Siltstone, dark-brown, very argillaceous, micaceous

4031 - 4064 Sandstone, very fine- and fine-grained, slightly dolomitic, very friable; few medium and coarse grains; grains predominantly angular and subangular

4064 - 4070 Sandstone as above, dolomitic

4070 - 4104 Sandstone as above, rusty, probably dolomitic to very dolomitic

4104 - 4111 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite), very sandy, grading into fine-grained rusty sandstone

4111 - 4134 Sandstone, fine- and medium-grained, very friable, rusty; some coarse-grained sand; grains angular to rounded and frosted. KERBEL FORMATION at 4111 feet

4134 - 4140 Sandstone, very fine- and fine-grained, slightly rusty, very friable
4140 - 4150 Sandstone as above, some medium- and coarse-grained sand
4150 - 4155 Siltstone and very fine-grained sandstone, medium-brownish-gray, dolomitic, rusty; some fine- to coarse-grained sand
4155 - 4162 As above, slightly glauconitic. CONASAUGA FORMATION at 4155 feet
4162 - 4167 Sandstone, very light- and light-gray, very fine-grained, very slightly glauconitic, slightly dolomitic. Shale, medium-gray, silty, dolomitic; minor
4167 - 4173 Sandstone as above, some fine-grained sand. Shale as above, heavy trace
4173 - 4181 Sandstone as above, slightly glauconitic. Shale as above, glauconitic, trace
4181 - 4190 Sandstone, light-brownish-gray, very fine-grained, silty, slightly glauconitic
4190 - 4198 Sandstone as above, micaceous. Shale, medium- to dark-grayish-brown, silty, micaceous; minor
4198 - 4201 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand). Shale as above, very dolomitic, minor. ROME FORMATION at 4202 feet (GRN)
4201 - 4221 Sandstone, fine- and medium-grained, very friable. Dolomite as above, minor
4221 - 4227 Dolomite as above. Sandstone as above, fine grained
4227 - 4257 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand)
4257 - 4271 Dolomite, light-yellowish-gray, microcrystalline (dolomicrite and dolosiltite); some medium- and coarse-grained oolites
4271 - 4279 Dolomite, light-yellowish-gray and very light-brownish-gray, microcrystalline (dolosiltite)
4279 - 4284 Dolomite as above, sandy (fine-grained sand)
4284 - 4311 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand); minor amount very light brownish gray
4311 - 4317 Dolomite, light-yellowish-gray, light-gray, very light-brownish-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand)
4317 - 4327 No sample
4327 - 4341 Dolomite, light-yellowish-gray to very light-brownish-gray, microcrystalline (dolosiltite), sandy
4341 - 4355 Dolomite, very light-brownish-gray and light- to medium-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand)
4355 - 4364 Dolomite as above, pelletal and oolitic in part (medium-grained, grain-supported)
4364 - 4375 Dolomite, very light- and light-brownish-gray, light-gray, microcrystalline (dolosiltite), sandy; grading into very fine-grained sandstone
4375 - 4381 Dolomite, very light-brownish-gray to medium-gray, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand); some fine-grained pellets
4381 - 4399 Dolomite as above, grading into fine-grained sandstone
4399 - 4406 Dolomite, very light-brownish-gray, light-gray, light-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); some medium-grained pellets
4406 - 4413 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite)
4413 - 4427 Dolomite as above and light-grayish-brown, sandy (very fine- and fine-grained sand)
4427 - 4434 Dolomite, medium-brown, microcrystalline (dolosiltite), pelletal (medium-grained, grain-supported)
4434 - 4440 Dolomite as above, in part very light gray with medium-brown pellets
4440 - 4445 Dolomite, light-grayish-brown to dark-brown, microcrystalline (dolomicrite and dolosiltite), oolitic (coarse-grained, mud-supported), sandy (fine-grained sand)
4445 - 4452 Dolomite as above, fine grained, oolitic
4452 - 4465 Dolomite, light-grayish-brown to dark-brown, microcrystalline (dolomicrite and dolosiltite), pelletal and oolitic, sandy (fine- and medium-grained sand)
4465 - 4473 Dolomite as above. Sandstone, fine- to coarse-grained (predominantly medium), very friable; grains predominantly angular
4473 - 4480 Dolomite as in sample from 4452 to 4465 feet
4480 - 4506 Sand, fine- to coarse-grained (predominantly medium), predominantly angular (broken?). MT. SIMON SANDSTONE at 4480 feet
4506 - 4511 Sand, fine-grained, angular
4511 - 4516 Sand, fine- and medium-grained (predominantly fine), angular to rounded and frosted (predominantly angular)
4516 - 4521 Sand as above, fine to coarse grained
4521 - 4543 Sand as in sample from 4511 to 4516 feet, few coarse grains
4543 - 4549 Sand, poorly sorted, fine- to coarse-grained, angular to rounded and frosted (predominantly angular)
4549 - 4566 Sand as above, predominantly medium grained
4566 - 4573 Sand, fine- to coarse- and very coarse-grained (predominantly coarse), rounded and frosted (broken in large part)
4573 - 4577 Granite gneiss. Sand as above, minor
4577 - 4590 Granite gneiss. PRECAMBRIAN at 4573 feet. See McCormick (1961) p. 43

Madison County
Fairfield Township
VMSL 9717

Amerada Petroleum Corp.
#1 Hume
Permit No. 3
Sample No. 1694
Elevation (KB) 995 feet

Depth (ft)

2100 - 2110 Limestone, very light- and light-brown, lithographic (dolomicrite with some fine-grained intraclasts). Limestone, light- to medium-grayish-brown, very finely crystalline, dolomitic
2110 - 2120 Limestone, light-yellowish-gray, lithographic (dolomicrite); few fossil fragments replaced by sparry calcite. Limestone, light- and medium-brown, medium-grained; in part argillaceous; much sparry calcite; may be bioclastic
2120 - 2130 Limestone, light-brown, lithographic (dolomicrite) and dense, fine- and medium-grained
2130 - 2140 Limestone as above, very light grayish brown to brownish gray in part, in part light greenish gray and argillaceous. Shale, light- and medium-greenish-gray; trace
2140 - 2150 Limestone, very light-brown, lithographic. Limestone, argillaceous as above, minor
2150 - 2160 Limestone, very light-gray to brown, lithographic; some crystalline calcite
2160 - 2180 Limestone, light- and medium-brown, lithographic to dense; fine-grained in part (dolomicrite)
2180 - 2190 Limestone as in sample from 2150 to 2160 feet, light yellowish gray to very light gray
2190 - 2200 Limestone, light-brown to grayish-brown and grayish-green; lithographic in part; very finely crystalline and silty in part; calcite crys-

tals in lithographic limestone

2200 - 2210 Limestone, light-brown, lithographic (dolomicrite); some spar; bird's-eye limestone

2210 - 2220 Limestone as above, 50%. Shale, light-green, dolomitic, silty, slightly sandy (fine-grained sand)

2220 - 2230 Dolomite and limestone, medium-grayish-brown to gray, finely crystalline (dolomite) and dense to fine-grained(limestone), silty, argillaceous, pyritic. Siltstone, light-grayish-brown, dolomitic, sandy (very fine- and fine-grained sand). Limestone, medium-brown, lithographic; trace

2230 - 2250 Dolomite, very light-grayish-brown, microcrystalline, very silty; argillaceous in part. Shale, medium-greenish-gray; heavy trace. Dolomite, light-greenish-gray, very finely crystalline, silty, argillaceous, sandy (very fine sand); trace

2250 - 2260 Sand, fine- and medium-grained, rounded and frosted; 60%. Dolomite, siltstone, shale as above

2260 - 2280 Dolomite, light-yellowish-gray and light-gray, microcrystalline to medium-crystalline, very slightly glauconitic; very fine-grained in part (dolomicrite). Siltstone, dolomite, shale, sand as above, trace. KNOX DOLOMITE at 2260 feet

2280 - 2290 Dolomite as above. Dolomite, very light-yellowish-brown, finely crystalline, sucrosic

2290 - 2295 Dolomite, sucrosic as above

2295 - 2300 Dolomite, very light-grayish-brown to yellowish-brown, microcrystalline to very finely crystalline; good pinpoint porosity in part

2300 - 2310 Dolomite, light- and medium-brown, microcrystalline, medium-grained (rounded intraclasts), slightly glauconitic; some intergranular porosity (good example of carbonate sand)

2310 - 2320 Dolomite, very light-yellowish-brown to yellowish-gray, microcrystalline to very finely crystalline, very fine- and fine-grained. Dolomite as above, minor. Sandstone, very light-gray, fine-grained, dolomitic; trace

2320 - 2330 Dolomite, very light-yellowish-gray to light-gray, microcrystalline (dolomicrite), pyritic

2330 - 2360 Dolomite, very light-yellowish-gray and light-gray to light-brown, microcrystalline, very fine- to medium-grained, pyritic; intraclasts subangular to rounded; some intergranular porosity

2360 - 2370 Dolomite, very light-gray and grayish-brown to light-brown, microcrystalline; very fine and fine grained in part (dolomicrite); pyritic in part

2370 - 2400 Dolomite as above. Sandstone, very light-grayish-brown, fine-grained, dolomitic; trace

2400 - 2430 Dolomite as above, minor. Dolomite, very light- and light-brown and yellowish-brown, finely and medium-crystalline; fine and medium grained in part; sucrosic in part; some pinpoint porosity in part (dolomicrite)

2430 - 2460 Dolomite, very light-yellowish-brown, very fine- to medium-grained, very finely to medium-crystalline (dolomicrite); some pinpoint porosity

2460 - 2490 As above, in part "carbonate sand" as in sample from 2300 to 2310 feet

2490 - 2500 As above, partings of glauconitic dolomitic fine-grained light-yellowish-gray sandstone

2500 - 2510 As above, dolomite in part with good intercrystalline porosity

2510 - 2530 Dolomite as above. Siltstone, light-gray, dolomitic, glauconitic; minor

2530 - 2540 Dolomite, very light-brown, fine- and medium-grained, very finely crystalline, slightly glauconitic. Siltstone as above, trace

2540 - 2550 Dolomite as above. Siltstone as above, 40%

2550 - 2560 Dolomite, medium-brown, fine- and medium-grained, medium-crystalline; sharp contact

2560 - 2570 Dolomite, light-brown, fine-grained, microcrystalline and very finely crystalline

2570 - 2590 Dolomite, very light-yellowish-brown, fine-grained, finely and medium crystalline (predominantly finely crystalline)

2590 - 2620 Dolomite, very light-yellowish-brown to yellowish-gray, very finely crystalline (dolomicrite)

2620 - 2640 Dolomite as above, very finely and finely crystalline

2640 - 2720 Dolomite as above. Dolomite, white to very light-gray, fine- and medium-grained(?), medium- and coarsely crystalline, glauconitic, slightly pyritic (grains? angular, may be anhedral dolomite crystals)

2720 - 2750 Dolomite, light-yellowish-brown to light-brown, very finely crystalline

2750 - 2770 Dolomite, light- and medium-brown, fine-grained, very finely crystalline. Dolomite, very light-gray to yellowish-gray, fine-grained, very finely crystalline

2770 - 2800 Dolomite as above. Dolomite, very light-gray and light-brown, microcrystalline and very finely crystalline

2800 - 2810 Dolomite, very light-gray and yellowish-brown to very light-brown, microcrystalline to finely crystalline; fine grained in part

2810 - 2820 Dolomite as above, slightly sandy (fine-grained sand)

2820 - 2850 Dolomite as above, fine and medium grained in part. Limestone, medium-brown, grayish-brown, and light-gray, lithographic, fossiliferous; heavy trace

2850 - 2870 As above. Sandstone, white, fine- and medium-grained, glauconitic; very dolomitic in part; trace

2870 - 2880 Sandstone, light-yellowish-gray, very fine- to coarse-grained (predominantly medium-grained), dolomitic, slightly glauconitic. Limestone, light- and medium-brown; very fine grained in part; medium grained in part; lithographic in part. Dolomite, light- and medium-brown, fine- and medium-grained, finely crystalline, oolitic(?); minor. KERBEL FORMATION at 2870 feet

2880 - 2890 Sandstone, white, predominantly very fine- and fine-grained; minor amount poorly sorted, very fine to coarse grained, dolomitic

2890 - 2900 Siltstone, light-grayish-brown, dolomitic, sandy (very fine- and fine-grained sand), argillaceous, micaceous. Sandstone as above, minor. Dolomite, light-yellowish-gray, microcrystalline, sandy (very fine- and fine-grained sand); trace

2900 - 2910 As above, predominantly very fine- and fine-grained sandstone, in part light grayish brown. Limestone, light-brown, lithographic; heavy trace. Shale, light- and medium-brown, gray, and brownish-gray; heavy trace. CONASAUGA FORMATION at 2900 feet

2910 - 2920 Sandstone as above. Shale as above, trace

2920 - 2940 As above, sandstone in part glauconitic, micaceous. EAU CLAIRE facies

2940 - 2950 Sandstone, light-yellowish-gray, very light-brownish-gray, very fine- and fine-grained, slightly glauconitic and micaceous; very dolomitic in part. Shale, medium-gray to greenish-gray; minor

2950 - 2960 Shale as above. Shale, dark-reddish-brown

2960 - 2980 Shale as above. Siltstone, light-brown, dolomitic, glauconitic; argillaceous in part. Sand-

stone as above, silty, heavy trace. Dolomite, white, coarsely crystalline; trace

2980 - 3000 Shale, medium-gray. Dolomite, very light- and light-gray, yellowish-gray, light-brown, very finely to coarsely crystalline, slightly sandy (very fine sand), micaceous; medium grained in part; minor amount glauconitic in part. Sandstone and siltstone as above, trace

3000 - 3010 As above, shale and dolomite in subequal amounts

3010 - 3070 Dolomite, light-yellowish-gray to light-brown, fine- to coarse-grained, very finely to coarsely crystalline, glauconitic; in part silty. Shale, medium-gray to greenish-gray; heavy trace to trace. Sandstone, light-brown, fine-grained, glauconitic, slightly dolomitic; heavy trace to trace. Limestone, light-brown and light-yellowish-gray; lithographic in part; fine grained in part; trace

3070 - 3080 Dolomite, light-yellowish-gray and very light-brown, fine-grained, sandy (subrounded and rounded fine- to coarse-grained sand), microcrystalline. ROME FORMATION at 3060 feet (GRN)

3080 - 3110 Dolomite as above, predominantly yellowish gray, cavings

3110 - 3140 Dolomite as above, in part grading into medium- to coarse-grained sandstone with rounded and frosted grains; cavings. Sandstone, light-brown, fine-grained, glauconitic, slightly dolomitic; heavy trace to trace

3140 - 3150 As above, much very light- and light-brown lithographic limestone (cavings?)

3150 - 3160 Sandstone, very light- and light-brown, fine-grained, dolomitic. Sandy dolomite as above, heavy trace. Limestone and shale cavings

3160 - 3170 Siltstone, light-brown and light-brownish-gray, dolomitic, slightly glauconitic; medium- and dark-gray shale partings

3170 - 3200 As above, siltstone pinkish yellow in part, glauconitic

3200 - 3210 Siltstone as above. Dolomite, light-yellowish-gray, microcrystalline, sandy (very fine- to medium-grained sand)

3210 - 3250 Dolomite, light-yellowish-gray to very light-brown, microcrystalline, very sandy, grading into sandstone. Sandstone, fine- to medium-grained; minor (Rome lithology). Sandstone, pink, fine-grained; heavy trace to trace

3250 - 3260 Sandstone as above, very fine to medium grained (predominantly fine). Dolomite as above, minor

3260 - 3270 Sandstone, light-yellowish-gray to pinkish-yellow, fine-grained. Dolomite as above, trace

3270 - 3280 As above, scattered coarse grains in sandstone

3280 - 3290 Dolomite, light- to dark-brown, microcrystalline, oolitic, sandy (fine-grained angular sand); rounded intraclasts. Sandstone as above, minor

3290 - 3300 Dolomite as above, medium and dark brownish gray in part, dolomitic in part, very sandy (fine- to coarse-grained sand), oolites dark brown. Sandstone as above, heavy trace

3300 - 3320 As above. Sandstone, light-yellowish-gray, fine- to coarse-grained, oolitic, dolomitic; heavy trace

3320 - 3330 Dolomite, light- and medium-brown, microcrystalline, very fine- to medium-grained, oolitic, intraclastic; sandy to very sandy in part (predominantly very fine-grained sand). Sandstone, light-yellowish-gray, silty; laminations of dark-gray shale; oolites and rounded dolomite intraclasts

3330 - 3350 Sandstone as above, predominantly. Dolomite as above, some coarse-grained sand

3350 - 3360 Dolomite as above, sand fine to coarse grained (predominantly coarse), subrounded and rounded. Sandstone, light-yellowish-gray, pinkish-yellow, light-brown, very fine- and fine-grained; minor. Many shale and limestone cavings

3360 - 3370 Dolomite, light- to dark-brown, microcrystalline, oolitic, intraclastic, sandy (very fine- to medium-grained sand). Sandstone, light-yellowish-gray, pinkish-yellow, fine- to coarse-grained; dolomitic in part; rounding of sand grains increasing with grain size

3370 - 3400 Dolomite as above. Sandstone as above, trace

3400 - 3410 Dolomite as above, sandy to very sandy. Sandstone as above, light brown, minor

3410 - 3450 Sandstone, pink and light-gray to brownish-gray and light-brown, very fine- to medium-grained (predominantly fine); partings of dark-gray shale. Dolomite, light-grayish-brown, oolitic, intraclastic; trace. MT. SIMON SANDSTONE at 3410 feet

3450 - 3460 As above, sandstone in part glauconitic

3460 - 3470 As above. Sand, medium- and coarse-grained; heavy trace

3470 - 3490 Sandstone, pink, pinkish-yellow to yellowish-gray, fine- to medium-grained. Sand, medium- and coarse-grained. Dolomite, light- and medium-gray, oolitic, intraclastic, sandy; trace

3490 - 3510 Sand as above. Sandstone as above, pinkish, minor. Sandstone, medium-brown and gray, fine-grained, argillaceous, glauconitic, micaceous; trace. Shale, medium-greenish-gray, silty; trace

3510 - 3520 Sand, medium- and coarse-grained. Sandstone, pink- and light-green, fine- and medium-grained. Sandstone, medium-gray to greenish-gray, very fine-grained, silty, argillaceous; trace

3520 - 3570 As above. Shale, red, silty; in part sandy (fine- to medium-grained sand); heavy trace

3570 - 3580 Samples out of place

3580 - 3610 Sand, very coarse (2 to 3 mm). Sandstone, pink, fine- to coarse-grained; in part coated with red silty clay; minor

3610 - 3620 Sand, very coarse. Sandstone, red, fine- and medium-grained; with red clay. Granite. PRECAMBRIAN at 3617 feet

3620 - 3631 Granite as above with some hornblende

TD 3631 feet

Mahoning County
Ellsworth Township
Section 15

Liberty Petroleum Corp.
#1 Myers Equipment Corp.
Permit No. 250
Sample No. 2357
Elevation (G) 1070 feet

Depth (ft)

7900 - 7920 Limestone, medium- and dark-brown, lithographic

7920 - 7940 Limestone as above. Shale, very dark-brown, dolomitic; heavy trace. Sand, medium- and coarse-grained; heavy trace to trace

7940 - 7950 Shale, dark-gray, brownish-gray, greenish-gray. Limestone as above, heavy trace

7950 - 7960 As above. Sand as in sample from 7920 to 7940 feet, heavy trace

7960 - 7970 Shale, light- and medium-gray, greenish-gray, dark-brown; 70%. Siltstone, light-gray, argillaceous, dolomitic; 30%

7970 - 7980 Siltstone as above, sandy (very fine- to medium-grained sand), 80%. Shale as above, 20%

7980 - 7990 Sandstone, fine- to coarse-grained (predominantly fine), very friable

7990 - 8000 Dolomite, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite). Sand-

	stone as above, trace. KNOX DOLOMITE at 7990 feet
8000 - 8010	Dolomite as above, very light- and light-brown. Sandstone as above, trace. Chert, white; trace
8010 - 8070	Dolomite, very light-brownish-gray, microcrystalline. Sandstone as above, trace. Very fine sample
8070 - 8080	Dolomite, very light-grayish-brown, microcrystalline (dolomicrite) to very finely crystalline, sucrosic(?). Very fine sample
8080 - 8090	Dolomite as above, light brown
8090 - 8110	Dolomite as above, very light grayish brown and brownish gray; slightly glauconitic from 8100 to 8110 feet
8110 - 8130	Dolomite as above, very sandy (fine-grained sand). ROSE RUN sandstone at 8110 feet
8130 - 8160	Sandstone, fine- and medium-grained, very friable
8160 - 8190	Sandstone as above, rusty
8190 - 8210	Sandstone, very fine- and fine-grained, very friable, dolomitic; grading into dolomite at 8200 feet. Base ROSE RUN sandstone at 8200 feet
8210 - 8220	No sample
8220 - 8230	Cavings
8230 - 8240	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand); very fine sample
8240 - 8250	Mud sample, containing fine- to coarse-grained sand
8250 - 8310	Dolomite, very light-brown, microcrystalline (dolomicrite), sandy (fine- and medium-grained sand); cavings (may include sand)
	TD samples 8310 feet

Mahoning County
Smith Township
Section 4

El Paso Natural Gas Producing Co. #1 Brenner
Permit No. 123
Sample No. 920
Elevation (KB) 1069 feet

Depth (ft)	
	Samples above 7540 feet not examined
7540 - 7550	Limestone, medium-brown to grayish-brown, micrograined and very fine-grained
7550 - 7590	Shale, dark-brownish-gray to greenish-gray, calcareous. Limestone as above
7590 - 7595	Dolomite, light-brown to grayish-brown, very fine- and fine-grained, dense, slightly argillaceous, silty, very slightly sandy. Shale as above, minor
7595 - 7615	Shale and minor limestone as above
7615 - 7620	Shale, medium-green, silty, slightly sandy
7620 - 7625	Shale as above, very dolomitic in part
7625 - 7635	Sandstone, light-gray, very fine- and fine-grained, slightly dolomitic, silty. Shale as above, minor
7635 - 7640	Sandstone as above, a few medium- and coarse-sized grains
7640 - 7645	Dolomite, light-brownish-gray to light-gray, microcrystalline
7645 - 7650	Siltstone, light-grayish-brown, slightly dolomitic
7650 - 7655	Dolomite as in sample from 7640 to 7645 feet
7655 - 7670	Dolomite, light-brownish-gray to light-gray, finely and medium-crystalline, slightly silty. KNOX DOLOMITE at 7646 feet (GRN)
7670 - 7675	Dolomite as above, light yellowish gray
7675 - 7725	Dolomite, light-brown to grayish-brown and yellowish-gray, finely and medium-crystalline, slightly silty
7725 - 7760	Dolomite as above, slightly glauconitic
7760 - 7765	Dolomite, light-yellowish-gray, very finely crystalline and very fine-grained, sandy (subrounded and rounded fine- to coarse-grained sand). ROSE RUN sandstone
7765 - 7790	Sandstone, white, fine- to coarse-grained (predominantly medium), dolomitic; grains subrounded and rounded
7790 - 7795	Misplaced sample or cavings (basal Middle Ordovician limestone)
7795 - 7800	Sandstone, light-yellowish-gray, medium-grained, dolomitic; grading into very fine-grained sandy dolomite; sand grains subangular to rounded
7800 - 7805	Sandstone as above, glauconitic. Dolomite, light-grayish-brown, micrpcrystalline; grading into very fine-grained sandy siltstone
7805 - 7815	Sandstone, light-gray, yellowish-gray and greenish-gray, fine-grained, glauconitic
7815 - 7820	Sandstone as above, pink in part. Siltstone, light-grayish-brown, slightly dolomitic
7820 - 7835	Dolomite, light-gray to yellowish-gray and light-yellowish-brown, very finely crystalline, sandy to very sandy (very fine-grained sand)
7835 - 7840	Dolomite as above. Dolomite, medium-gray, very silty
7840 - 7845	Dolomite, light- and medium-brown to grayish-brown, very finely crystalline, silty
7845 - 7855	Dolomite as above, light yellowish gray
7855 - 7860	Dolomite, light-yellowish-gray, fine- and medium-grained, finely and medium-crystalline, sandy and silty
7860 - 7865	Sandstone, light-yellowish-gray, fine- and medium-grained, slightly dolomitic (in place?)
7865 - 7870	Dolomite, light-brownish-gray to yellowish-gray, very finely crystalline, slightly glauconitic, slightly sandy (very fine- and fine-grained sand)
7870 - 7875	Dolomite as above. Sandstone, light-gray, fine- to coarse-grained, poorly sorted, glauconitic
7875 - 7880	Dolomite, light-brown to yellowish-brown, fine- and medium-grained, finely crystalline, silty
7880 - 7885	Dolomite, light-yellowish-gray to yellowish-brown, fine-grained, very finely and finely crystalline, slightly silty
7885 - 7890	Dolomite as above, slightly glauconitic
7890 - 7895	Dolomite as above, medium brown
7895 - 7900	Dolomite, light-yellowish-gray to yellowish-brown, microcrystalline and very finely crystalline
7900 - 7905	Dolomite as above, sandy (subrounded and rounded fine- and medium-grained sand)
7905 - 7915	Dolomite, light-yellowish-brown and light- and medium-brown, sandy; fine and medium grained in part; very finely and finely crystalline in part
7915 - 7925	Dolomite, light-yellowish-gray, very finely and finely crystalline, sandy
7925 - 7940	Dolomite as above, Dolomite, light- and medium-brown to yellowish-brown, fine- and medium-grained, sandy
7940 - 7945	No sample
7945 - 7955	As in sample from 7925 to 7940 feet
7955 - 7965	Dolomite, light- and medium-brown to yellowish-brown, very finely and finely crystalline, sandy
7965 - 7980	Dolomite as above, light yellowlsh gray, very finely crystalline
7980 - 7985	No sample
7985 - 8025	Dolomite as above, predominantly light yellowish gray
8025 - 8031	Dolomite, light-yellowish-gray and light-grayish-brown to brown, fine- and medium-grained, finely crystalline, sandy (very fine-grained sand) and silty
	TD 8031 feet

Marion County
Claridon Township
Section 27

United Producing Co. #1
Mitchell
Permit No. 8
Sample No. 1086
Elevation (KB) 1001 feet

Depth (ft)	
	Sample quality poor
2600 - 2620	Limestone, light-gray, brownish-gray, light- and medium-brown, lithographic and sublithographic. Shale, light-green; trace
2620 - 2630	Limestone, light-brown, lithographic. Limestone, light-brownish-gray, micrograined, argillaceous. Shale, light- and medium-gray to greenish-gray; heavy trace
2630 - 2640	Limestone, very light-gray, lithographic
2640 - 2650	Dolomite, very light-gray and brown, microsucrosic. Limestone as above, trace. KNOX DOLOMITE at 2646 feet (GRN)
2650 - 2660	Cavings
2660 - 2665	Dolomite, light-yellowish-gray, very light-brown, very finely crystalline
2665 - 2690	Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline; poor pinpoint and vuggy porosity
2690 - 2705	Dolomite as above, microcrystalline (dolosiltite) to finely crystalline, very slightly glauconitic
2705 - 2725	Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline
2725 - 2740	Dolomite as above, poor pinpoint porosity
2740 - 2750	Dolomite as in sample from 2705 to 2725 feet
2750 - 2760	Dolomite as above. Sandstone, very light-gray, very fine-grained, silty, slightly glauconitic; trace
2760 - 2800	Dolomite as above, slightly sandy (very fine-grained sand)
2800 - 2840	Dolomite as above. Sandstone, light-brownish-gray and gray, very fine-grained, slightly glauconitic; heavy trace
2840 - 2850	Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone, very light- and light-gray, slightly dolomitic to dolomitic, slightly glauconitic; pyritic in part
2850 - 2900	Dolomite, light-brown, microcrystalline (dolosiltite) to finely crystalline, very silty. Siltstone as above
2900 - 2910	Dolomite, very light- to medium-brown, microcrystalline (dolosiltite)
2910 - 2980	Dolomite, very light- and light-brown, very finely and finely crystalline; sucrosic in part; poor pinpoint porosity
2980 - 3010	Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline. Siltstone, light-gray; trace
3010 - 3020	Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline, very slightly sucrosic; some medium-grained pellets
3020 - 3030	Dolomite, white and very light-gray, microcrystalline (dolosiltite) and very finely crystalline. Dolomite as above, trace
3030 - 3040	Dolomite as above, white and very light and light gray
3040 - 3070	Dolomite as above. Dolomite, very light-brown, very fine and fine grained in part
3070 - 3080	Dolomite, very light- and light-gray, brown, microcrystalline (dolosiltite), oolitic (medium-grained, grain- and mud-supported), sandy (very fine- to medium-grained sand); grading into sandstone. Sandstone, minor. KERBEL FORMATION at 3070 feet
3080 - 3090	As above, sandstone predominant
3090 - 3110	Sandstone, light-brown, fine- and medium-grained (predominantly fine), dolomitic
3110 - 3150	Sandstone, very light-brown, very fine- and fine-grained, dolomitic
3150 - 3160	Sandstone as above. Shale, dark-brown. Dolomite, very light-gray and light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone, light-gray, dolomitic. CONASAUGA FORMATION at 3150 feet
3160 - 3180	Dolomite as above, conglomeratic in part, oolitic and pelletal in part. Shale as above. Sandstone as above, light-gray, very fine-grained, glauconitic. Siltstone as above
3180 - 3200	Dolomite, light-brown and very light-gray, finely crystalline; fine grained in part. Sandstone, light-brown, light-brownish-gray, very fine- and fine-grained; glauconitic in part. Shale, dark-brown
3200 - 3220	Sandstone, light-brownish-gray, light-brown, very fine- and fine-grained, glauconitic. Dolomite, light-brown, finely crystalline; bioclastic in part; glauconitic in part. Shale as above
3220 - 3230	Sandstone, light-brown, very fine-grained, glauconitic; slightly micaceous in part
3230 - 3240	Sandstone as above. Dolomite, very light-gray, medium-brown, microcrystalline (dolosiltite) to finely crystalline; bioclastic in part; glauconitic in part. Shale, dark-brown
3240 - 3250	Sandstone, very light-brown, very fine- to medium-grained, dolomitic, friable; laminations of silty dark-brown shale
3250 - 3260	Sandstone, very light-brown and light-grayish-brown, very fine- and fine-grained; some medium-grained sand. Shale, dark-brown; heavy trace
3260 - 3270	Sandstone, very light- and light-brown, pinkish-brown, light-gray, very fine- and fine-grained, very glauconitic; blebs of bioclastic glauconitic light-brown dolomite
3270 - 3280	Sandstone as above. Dolomite, very light-brown and gray, microcrystalline (dolosiltite); heavy trace
3280 - 3290	Sandstone, light-gray, brown, very fine- and fine-grained, dolomitic. Dolomite, light-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); minor. ROME FORMATION at 3275 feet (GRN)
3290 - 3300	Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite); oolitic and pelletal in part (fine- and medium-grained, grain-supported); sandy in part (fine-grained sand)
3300 - 3310	Dolomite as above, very light gray in part
3310 - 3320	Dolomite, light-yellowish-gray, microcrystalline (dolosiltite) and very finely crystalline
3320 - 3330	Dolomite as above. Dolomite, very light-brown
3330 - 3340	Dolomite, very light- and light-gray, brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline; oolitic in part (medium-grained, grain- and mud-supported); slightly sandy in part (fine-grained sand)
3340 - 3350	Dolomite as above, sandy to very sandy (fine- and medium-grained sand), grading into sandstone. Sandstone, heavy trace
3350 - 3360	Dolomite, light-yellowish-gray, microcrystalline (dolomicrite and dolosiltite), sandy; pinkish in part; grading into fine- and medium-grained sandstone
3360 - 3370	Sandstone as above. Dolomite as above, sandy to very sandy, trace
3370 - 3390	Sandstone, very light- and light-brown, fine- and medium-grained, dolomitic
3390 - 3400	Sandstone, very light-brown, very fine-grained. Sandstone, light-brownish-gray, medium-

grained, dolomitic; trace

3400 - 3410 Sandstone, very light-brown, very fine-grained

3410 - 3430 Sandstone, very light-brown, pinkish-brown, light-gray, very fine- and fine-grained; some medium-grained sand; glauconitic in part

3430 - 3440 Sandstone as above. Dolomite, light- and medium-brown, microcrystalline (dolosiltite); slightly sandy in part (very fine- to medium-grained sand)

3440 - 3450 Dolomite, very light-gray, microcrystalline (dolosiltite) and very finely crystalline; sandy in part (fine-grained sand). Sandstone as above, minor

3450 - 3460 Dolomite as above. Dolomite, very light- and light-brown, sandy to very sandy (very fine- and fine-grained sand). Sandstone as above, trace

3460 - 3490 Dolomite, very light-gray, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline, sandy to very sandy (very fine- to coarse-grained sand); pelletal and oolitic in small part

3490 - 3550 Dolomite, very light-gray, light- to dark-brown, microcrystalline (dolosiltite), pelletal and oolitic, silty; sandy in part (very fine- to medium-grained sand)

3550 - 3580 Dolomite as above. Sandstone, light-brown, fine- and medium-grained

3580 - 3600 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite), silty; sandy in part (very fine- to medium-grained sand); pelletal and oolitic in part. Sandstone as above, trace

3600 - 3610 Sandstone, light-brown and pinkish-brown, fine and medium-grained; some coarse-grained sand. Dolomite as above, minor. MT. SIMON SANDSTONE at 3600 feet

3610 - 3650 Sandstone as above. Dolomite as above, trace

3650 - 3660 Sandstone, light-brown, pinkish-brown, and pinkish-yellow, predominantly fine-grained

3660 - 3675 Sandstone as above, much coarse-grained sand. Hornblende-rich granite gneiss or granite. PRECAMBRIAN at 3665 feet

TD samples 3675 feet

Medina County
Granger Township
Lot 42

Wiser Oil Co. #1 Warner
Permit No. 1201
Sample No. 812
Elevation (KB) 1117 feet

Depth (ft)

5700 - 5750 Limestone, very light- and medium-brown, lithographic and sublithographic. Shale, medium-gray and brown; trace. Dolomite, medium-brown, finely crystalline; trace

5750 - 5770 Limestone, light-brown, lithographic and sublithographic. Shale, medium-greenish-gray to gray; heavy trace. Dolomite as above, trace

5770 - 5780 Limestone as above. Shale, light- and medium-greenish-gray; very dolomitic in part. Sand, fine- and medium-grained, rounded; trace

5780 - 5790 Dolomite, light-gray and light-brown, microcrystalline, silty and sandy. Shale as above, minor. Sand, fine- and medium-grained, subangular and rounded; heavy trace. Limestone as above, trace

5790 - 5800 Sand, fine-grained, subangular and subrounded; minor amount medium grained. Dolomite, very light-gray, microcrystalline and very finely crystalline, sandy; trace. KNOX DOLOMITE at 5795 feet (GRN)

5800 - 5810 Sand and dolomite as above, predominantly sand

5810 - 5890 Dolomite, very light-brownish-gray, very finely crystalline, sandy (angular and subangular very fine- and fine-grained sand). No samples from 5830 to 5840, 5850 to 5860 feet

5890 - 5920 Dolomite as above, very sandy

5920 - 5930 Sandstone, very light-brownish-gray, fine-grained, dolomitic; grains angular(?) to rounded. Shale, medium- and dark-gray and red. Dolomite as above, trace. CONASAUGA FORMATION at 5920 feet

5930 - 5940 Shale as above. Siltstone, dark-brownish-gray, siliceous; trace. Sandstone as above, minor

5940 - 5950 As above, sandstone only slightly dolomitic. Chert, light-gray; trace

5950 - 5960 Shale, predominantly medium- and dark-gray. Siltstone and sandstone as above, trace

5960 - 5970 Shale as above. Siltstone and sandstone as above, very slightly glauconitic; trace. Limestone, very light-gray, bioclastic; trace. Dolomite, dark-brown, dense, silty; trace

5970 - 5980 Shale as above. Limestone, very light-gray and medium- and dark-brown, predominantly lithographic. Siltstone, dark-grayish-brown, slightly dolomitic; glauconitic in part. Sandstone, fine-grained; trace. Dolomite, very light-brownish-gray, microcrystalline, sandy (very fine-grained sand)

5980 - 6000 Dolomite as above. Shale, limestone, siltstone, and sandstone as above

6000 - 6010 Dolomite, very light- and light-gray, brownish-gray, and dark-brown, microcrystalline, silty to very silty; grading into siltstone. Shale, dark-gray; minor

6010 - 6050 Siltstone, light-gray and dark-brown, dolomitic. Shale, medium- and dark-gray

6050 - 6070 Siltstone and shale as above. Dolomite, light-yellowish-gray and dark-brown, finely crystalline, sandy, oolitic(?); grading into very fine- and fine-grained sandstone. ROME FORMATION at 6053 feet (GRN)

6070 - 6100 Dolomite, light-brown, yellowish-brown, and yellowish-gray, finely crystalline, sandy to very sandy (very fine- and medium-grained sand); medium grained in part

6100 - 6130 Dolomite as above, slightly glauconitic in part, sand coarse grained in part

6130 - 6160 Dolomite as above. Sandstone, fine- and medium-grained, slightly glauconitic; minor

6160 - 6180 Dolomite, light-yellowish-brown and yellowish-gray, very finely and finely crystalline, dense, sandy (very fine- and fine-grained sand). Dolomite, pink; trace

6180 - 6230 Dolomite as above, sandy to very sandy (very fine- and medium-grained sand). Dolomite, pink; trace

6230 - 6250 As above, minor part of dolomite grading into sandstone

6250 - 6270 As above, sand in dolomite very fine and coarse grained

6270 - 6280 As above, dolomite oolitic

6280 - 6290 As in sample from 6250 to 6270 feet

6290 - 6310 Dolomite, light-yellowish-brown and yellowish-gray, very finely and finely crystalline, dense, very slightly sandy (very fine-grained sand)

6310 - 6330 As above, streak of very sandy dolomite

6330 - 6340 Dolomite as above, oolitic(?) and pelletal, sandy (very fine sand)

6340 - 6360 Dolomite as above, dark brown in part, very oolitic and pelletal

6360 - 6380 Dolomite, light-gray, brownish-gray, dark-brown, and grayish-brown, microcrystalline and very finely crystalline

6380 - 6390 Dolomite, light-yellowish-brown and yellowish-gray, microcrystalline and very finely crystalline, sandy (very fine- and fine-grained sand); dolomite pelletal in part

6390 - 6410 As above. Sandstone, medium-gray, fine- and

medium-grained; minor
6410 - 6420 Dolomite, light-gray, light- and dark-grayish-brown, microcrystalline and very finely crystalline, sandy (very fine- and fine-grained sand)
6420 - 6430 Dolomite as above, pelletal and oolitic in part
6430 - 6440 Dolomite, light-yellowish-gray and dark-brown, oolitic, pelletal, sandy; grading into poorly sorted fine- and coarse-grained (predominantly fine) sandstone
6440 - 6500 As above. Sandstone, minor
6500 - 6540 As above. Sandstone, light-yellowish-gray, fine- and medium-grained; minor to trace
6540 - 6560 Sandstone, white, fine- and coarse-grained (predominantly fine and medium); slightly dolomitic in part. MT. SIMON SANDSTONE at 6540 feet
6560 - 6580 Sandstone as above, light brown, coarse grained, one fossiliferous mold (brachiopod)
6580 - 6600 Sandstone as above, white
6600 - 6610 Sandstone as above, light gray
6610 - 6640 Sandstone as in sample from 6560 to 6580 feet
6640 - 6650 Sandstone as above. Sandstone, pink. Orthoclase and microcline with biotite, trace
6650 - 6660 As above
6660 - 6670 As above. Quartz, biotite (quartz-biotite gneiss?) and orthoclase. PRECAMBRIAN at 6662 feet (GRN)
6670 - 6728 Gneiss(?) as above
TD samples 6728 feet

Medina County
Hinckley Township
Lot 69, 4th quarter

Wiser Oil Co. #1-A Smith Estate
Permit No. 1143
Sample No. 819
Elevation (KB) 1200 feet

Depth (ft)

Core chips
5759.0 - 5759.3 Limestone, dark-brown, lithographic; bird's-eye structures and patches of microsucrosic light-brown dolomite
5759.8 - 5760.0 Limestone, medium-grayish-green, argillaceous, slightly pyritic, slightly silty; mottled medium brown; lithographic to calcisiltite
5760.0 - 5760.4 Limestone, dark-brown, lithographic; partings of very argillaceous dark-brown limestone; bird's-eye structures; ostracods
5776.0 - 5776.4 Shale, dark-brown
5776.4 - 5778.3 Limestone, light-brown, micrograined (dolosiltite), silty; crinkly laminations of argillaceous dark-gray limestone
5778.3 - 5778.8 Limestone, very light-brown, slightly grayish, lithographic, very slightly argillaceous
5778.8 - 5778.9 Shale, dark-brownish-gray
5778.9 - 5779.9 Shale, light- to medium-gray to greenish-gray, dolomitic
5779.9 - 5780.0 Dolomite, very light-gray, micrograined (dolomicrite and dolosiltite), calcareous; blebs of light-green shale
5780.0 - 5780.5 Shale, dark-brown, very dolomitic
5780.5 - 5781.1 Limestone, light-brown, micrograined, slightly argillaceous
5781.1 - 5782.1 Limestone, medium-brown, micrograined to medium-grained, fossiliferous. Shale, dark-gray
5782.1 - 5787.0 Dolomite, light- to medium-gray to brown, micrograined, argillaceous
5787.0 - 5789.0 Dolomite, light- to medium-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline, oil-stained; good vuggy porosity. KNOX DOLOMITE at 5787 feet
5789.0 - 5789.3 Sandstone, very light- and light-gray, fine- and medium-grained, dolomitic
5789.3 - 5790.3 Sandstone, light-brown and gray, fine- and medium-grained, very dolomitic. Dolomite, light- to medium-brown, very finely to medium-sucrosic; poor vuggy porosity (vugs filled with pyrite); patches of light-green shale
5790.3 - 5794.0 Shale, medium-gray, very dolomitic, sandy (very fine- to coarse-grained sand)
5794.0 - 5798.0 Sandstone, very light-gray, very fine- and fine-grained, very dolomitic
5798.0 - 5799.7 Dolomite, light-grayish-brown, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand); oil-stained; poor pinpoint porosity; passing laterally into siltstone. Siltstone, very light-gray, sandy (very fine- and fine-grained sand), dolomitic
5799.7 - 5800.0 Sandstone, very light-gray, very fine-grained, very dolomitic, pyritic; slightly pinkish and brownish in part
5800.0 - 5800.8 Dolomite, very light- to light-brown, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand)
5800.8 - 5801.1 As in sample from 5798.0 to 5799.7 feet
5801.1 - 5801.6 Sandstone (gradation from dolomite of sample from 5800.0 to 5800.8 feet)
5801.6 - 5804.5 Sandstone, light- to medium-brown, fine-grained, very dolomitic to dolomitic, pyritic; some medium-sized sand
5804.5 - 5807.8 Dolomite, very light- to light-brown, microcrystalline (dolosiltite)
5807.8 - 5808.5 Dolomite as above, sandy (fine- and medium-grained sand), silty in patches
5808.5 - 5808.8 Sandstone, light-gray, fine-grained, micaceous (biotite); angular grains
5808.8 - 5809.3 Dolomite, light-gray to very light-brown, microcrystalline (dolosiltite), sandy (fine-grained sand); dark-gray shale lamination
5809.3 - 5810.0 Sandstone, very light-brownish-gray, fine-grained, very dolomitic. Dolomite, very light-grayish-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained), oil-stained; good pinpoint porosity
5810.0 - 5819.5 Dolomite, very light-brown to brownish-gray, microcrystalline (dolosiltite)
5819.5 - 5819.8 Sandstone, light- to medium-brown, fine- and medium-grained, slightly dolomitic (angular grains), oil-stained. Dolomite, light- to medium-brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand); grading into sandstone
5819.8 - 5820.7 Sandstone as above, slightly glauconitic
5820.7 - 5821.2 Sandstone, very light-gray, fine- and medium-grained, dolomitic; some coarse-grained sand; stained with dead oil
5821.2 - 5822.2 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (fine-grained sand); excellent vuggy porosity (ovoid vugs up to 2 mm across); stained with dead oil
5822.2 - 5823.3 Dolomite, very light-grayish-brown, microcrystalline (dolomicrite); poor vuggy porosity. Dolomite, very light-brown, microcrystalline (dolosiltite), sandy to very sandy (fine- and medium-grained sand)
5823.3 - 5833.8 Dolomite as in sample from 5821.2 to 5822.2 feet, fair porosity
5833.8 - 5834.0 Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite); interbeds of sandy (very fine- and fine-grained sand) and silty dolomite
5834.0 - 5834.6 Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite), very sandy (fine- to coarse-grained sand); grading into sand-

stone. KERBEL FORMATION at 5834 feet

5834.6 - 5834.7 Dolomite as in sample from 5833.8 to 5834.0 feet

5834.7 - 5835.7 Dolomite, light- to medium-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); very fine and fine grained in part

5835.7 - 5836.1 Dolomite, very light- to light-grayish-brown, microcrystalline (dolosiltite), sandy to very sandy (fine- and medium-grained sand); poor pinpoint porosity

5836.1 - 5837.7 Dolomite, very light-brown, microcrystalline (dolosiltite), slightly sandy (fine- and medium grained sand). Dolomite as above, interbedded with very argillaceous medium-brown and medium-greenish-gray dolomite

5837.7 - 5843.0 Dolomite, light-brown, microcrystalline (dolosiltite), very sandy (fine- to coarse-grained sand); grading into sandstone

5843.0 - 5843.7 Dolomite as above

5843.7 - 5844 Sandstone, very light-brownish-gray to white, very fine- and fine-grained, slightly dolomitic

5860 - 5862 Sandstone as above, very light brown to brownish gray

5862 - 5863 Sandstone as in sample from 5837.7 to 5843.0 feet, very dolomitic

5863 - 5866 Sandstone as above

5866 - 5869 Sandstone, very light-gray, fine- and medium-grained, dolomitic. Sandstone, very light-brown, very fine-grained, dolomitic

5869 - 5872.8 Sandstone, very light-brown to gray, medium- and coarse-grained, very dolomitic

5872.8 - 5874.5 Sandstone as above, fine to coarse grained, predominantly medium grained

5874.5 - 5880.0 Sandstone as above

5880.0 - 5881.5 Sandstone as above, predominantly fine grained

5881.5 - 5887.0 Sandstone as above

5887.0 - 5887.5 Dolomite, light-brown, microcrystalline (dolosiltite) slightly sandy (fine- and medium-grained sand)

5887.5 - 5888.0 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline; fine grained in part; fair pinpoint porosity

5888.0 - 5890.0 Dolomite as above, sandy, grading into medium-grained sandstone

Base of core chips

5890.0 - 5920 Sandstone, light-yellowish-gray, fine- and medium-grained, dolomitic

5920 - 5930 Sandstone, light-gray to very light-brownish-gray, very fine- and fine-grained, siliceous; silty in part. Sandstone as above, minor. Shale, dark-brown, silty; heavy trace. Shale, black and dark-gray; cavings. CONASAUGA FORMATION at 5920 feet

5930 - 5970 Siltstone, light-gray to medium- and dark-brown and brownish-gray, argillaceous; very slightly glauconitic in part. Shale, dark-brown, silty. Sandstone as above, trace

5970 - 5990 As above. Dolomite, very light- and light-gray, very finely crystalline, bioclastic(?); heavy trace

5990 - 6020 Siltstone, light-gray to brownish-gray; argillaceous in small part. Shale, black and dark-gray; cavings

6020 - 6030 Dolomite, light- to dark-brown, very finely and finely crystalline, slightly silty. ROME FORMATION at 6022 feet (GRN)

6030 - 6040 Dolomite as above, very light brown and grayish brown in part. Shale, light-green, micaceous; trace

6040 - 6060 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to medium-crystalline, sandy (fine- and medium-grained sand)

6060 - 6080 Dolomite as above. Sandstone, very light-brown, medium- and coarse-grained, dolomitic, slightly glauconitic; trace

6080 - 6090 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), sandy (very fine- to coarse-grained sand); grading into sandstone. Sandstone, predominantly fine-grained; heavy trace

6090 - 6120 Dolomite as above. Sandstone as above, minor. Both sandstone and dolomite slightly glauconitic from 6100 feet

6120 - 6140 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand)

6140 - 6150 Dolomite, light-yellowish-gray to light-brown, very finely and finely crystalline, slightly sandy (very fine-grained sand)

6150 - 6160 Dolomite, sandy to very sandy, grading into sandstone. Sandstone, fine- and medium-grained; minor

6160 - 6170 Sandstone and dolomite as above, dolomite minor

6170 - 6220 Dolomite, very light- and light-brown, very finely to medium crystalline, sandy (fine- and medium-grained sand); pinkish in part; coarsely sucrosic in part; trace of pinpoint porosity

6220 - 6230 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand); fine grained in part

6230 - 6240 Dolomite as above, pink and red in small part

6240 - 6260 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- and fine-grained sand); oolitic and pelletal in part (fine- and medium-grained, grain-supported; oolites in part sand centered)

6260 - 6270 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand); very fine and fine grained in part; pelletal in part (medium-grained, grain-supported)

6270 - 6310 Dolomite, light-yellowish-gray to very light-brown, microcrystalline (dolomicrite and dolosiltite), very slightly sandy (very fine- to medium-grained sand); pelletal in part (very fine- and fine-grained, grain-supported); fine-grained dolarenite in part

6310 - 6320 Dolomite as above, pink in part, very finely and finely crystalline in part, sandy, grading into sandstone. Sandstone, fine-grained; heavy trace

6320 - 6340 Dolomite as above, microcrystalline (dolomicrite and dolosiltite), very slightly sandy as above

6340 - 6350 Dolomite, light-brown, pinkish-brown, and light- and medium-gray, microcrystalline (dolomicrite and dolosiltite), oolitic (medium- and coarse-grained, grain-supported), sandy to very sandy (fine- to coarse-grained sand)

6350 - 6400 Dolomite, light- and medium-brown and gray, microcrystalline (dolomicrite and dolosiltite), pelletal (fine- and medium-grained, grain-supported), sandy (fine- to coarse-grained sand); slightly oolitic as above; laminations of black to dark-gray shale

6400 - 6410 Dolomite as above. Sandstone, very light-brownish-gray, fine- and medium-grained; heavy trace

6410 - 6480 Dolomite, light- to dark-gray and brown, mi-

		crocrystalline (dolomicrite and dolosiltite), pelletal and oolitic, sandy (fine- to coarse-grained). Sandstone, very light-gray, fine- to coarse-grained; trace
6480	- 6500	Dolomite as above, sandy to very sandy. Sandstone as above, minor
6500	- 6520	Dolomite as above. Sandstone as above
6520	- 6530	Sandstone, light-yellowish-gray and very light-brownish-gray, very fine- to medium-grained. Dolomite as above, heavy trace. MT. SIMON SANDSTONE at 6520 feet
6530	- 6540	Sandstone as above, very fine to coarse grained. Dolomite as above, trace
6540	- 6570	Sandstone as above
6570	- 6580	Sandstone as above, arkosic in part
6580	- 6590	Granite gneiss. PRECAMBRIAN at 6580 feet. For detailed description from 6930 feet to TD, see McCormick (1961); in his report, top of Precambrian placed at 6930 feet
		TD samples 7040 feet

Miami County
Washington Township
Section 3

Sun Oil Co. #1 Levering
Permit No. 1
Sample No. 669
Elevation (DF) 995 feet

Depth (ft)	
1600 - 1609	Limestone, light- and medium-brown, lithographic; 80%. Shale, medium- and dark-grayish-green, silty, pyritic; sandy in part; 20%
1609 - 1622	Limestone as above, 40%. Shale as above, 30%. Sandstone, light-greenish-gray, dolomitic, argillaceous, very fine- and fine-grained; 30%. Dolomite, medium-brown, microcrystalline (dolosiltite), silty; heavy trace
1622 - 1632	Dolomite, very light- and light-brown, microcrystalline (dolosiltite), slightly sandy; 80%. Shale as above, 10%. Sandstone as above, 10%. Chert, white, very light-brown, oolitic; recrystallized in part; heavy trace. KNOX DOLOMITE at 1626 feet (GRN)
1632 - 1642	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand), slightly pyritic, microsucrosic in part; 90%. Chert, white and very light-gray, oolitic; recrystallized in part; 10%
1642 - 1656	As above, dolomite in part light brown, sand in dolomite very fine and fine grained
1656 - 1667	Dolomite, very light-gray, finely to coarsely crystalline; sucrosic in part
1667 - 1685	Dolomite as above, very light brown
1685 - 1697	Dolomite as above. Chert, white; recrystallized in part; heavy trace
1697 - 1706	Dolomite, light-brown, slightly grayish, microcrystalline (dolosiltite) and very finely crystalline; poor pinpoint porosity
1706 - 1722	Dolomite, light-brown, very finely sucrosic
1722 - 1751	Dolomite, light-brown, very light-grayish-brown and gray, microcrystalline (dolomicrite) to very finely crystalline, slightly glauconitic, sandy (very fine- to coarse-grained sand); becoming very finely and finely crystalline at 1735 feet; in small part grading into sandstone
1751 - 1766	Dolomite, light-brown, very finely and finely crystalline and sucrosic; some matrix chert and chert oolites. Chert, white, very light-gray, oolitic; heavy trace. Sandstone, light-gray, fine- to coarse-grained, dolomitic; trace
1766 - 1777	Dolomite, light- and medium-brown, microcrystalline (dolosiltite); oolitic and pelletal in part; silicified in part
1777 - 1790	Dolomite, light-brown, very finely crystalline
1790 - 1806	Dolomite, medium-brown, very finely crystalline, pelletal; sucrosic in part; good pinpoint porosity. Chert, white and very light-brown; oolitic and pelletal in part; trace
1806 - 1816	Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline; silty and slightly glauconitic in part; grading into siltstone in small part
1816 - 1830	Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite); silty in part. Chert, white, silty; trace. Sandstone, light-gray, fine-grained; trace
1830 - 1840	Dolomite as above, slightly sandy (fine- to coarse-grained sand), very finely crystalline in part
1840 - 1846	Dolomite, light-brown, grayish-brown, microcrystalline (dolosiltite), silty, slightly glauconitic, slightly sandy
1846 - 1863	Dolomite, very light-brown, microcrystalline (dolosiltite). Chert, white; trace
1863 - 1875	Dolomite, very light- and light-brown, microcrystalline (dolomicrite) to very finely crystalline; some pellets. Chert as above, trace
1875 - 1885	Dolomite as above, predominantly microcrystalline (dolomicrite). Chert as above, trace
1885 - 1899	Dolomite, light-brown, microcrystalline (dolomicrite); poor vuggy porosity (no permeability)
1899 - 1915	Dolomite, light-brown, microcrystalline (dolosiltite)
1915 - 1930	Dolomite, light- and medium-brown, very finely crystalline
1930 - 1978	Dolomite as above, finely crystalline and sucrosic in part, recrystallized. Chert, heavy trace to trace
1978 - 1994	Dolomite as above, predominantly very light grayish brown, fine sample
1994 - 2021	Dolomite, light-brown to very light-grayish-brown, very finely crystalline. Chert, recrystallized, or fine-grained sand, heavy trace. Fine sample
2021 - 2034	Dolomite, light-brown, very finely and finely crystalline. Chert, recrystallized, or sand, trace
2034 - 2046	Dolomite as above. Dolomite, very light-grayish-brown, microcrystalline (dolosiltite)
2046 - 2063	Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline. Dolomite crystals, trace
2063 - 2110	Dolomite, very light-grayish-brown to light-brown, predominantly microcrystalline (dolosiltite)
2110 - 2120	Dolomite, very light-brownish-gray and light-gray, microcrystalline (dolosiltite). Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline
2120 - 2134	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite) to finely crystalline and sucrosic, pyritic, sandy (very fine-grained sand)
2134 - 2147	Dolomite as above, very light brown in part
2147 - 2159	Dolomite as above, very light brownish gray, fine sample
2159 - 2175	Dolomite as above, very light brownish gray, light gray, predominantly microcrystalline (dolosiltite), slightly pyritic
2175 - 2187	Dolomite, very light-gray, very finely crystalline and sucrosic
2187 - 2202	Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolomicrite) to very finely crystalline
2202 - 2215	Dolomite, very light-brown, microcrystalline (dolosiltite); pinkish in part
2215 - 2227	Dolomite, very light-grayish-brown to dark-brown, microcrystalline (dolomicrite and

dolosiltite). Shale, very dark-brown, silty; trace

2227 - 2252 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline, silty

2252 - 2270 Siltstone, light-grayish-brown, dolomitic, slightly sandy (very fine-grained sand), slightly glauconitic

2270 - 2289 Dolomite, light- to medium-brown, slightly grayish, finely crystalline, granular-looking, silty, very slightly glauconitic

2289 - 2340 Dolomite as above, nonsilty, nonglauconitic

2340 - 2358 Dolomite as above, silty in part, becoming predominantly microcrystalline (dolomicrite) at 2352 feet

2358 - 2376 Dolomite, light- and medium-brown, predominantly microcrystalline (dolomicrite and dolosiltite); rust stained to 2362 feet

2376 - 2386 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline

2386 - 2412 Dolomite, very light- to medium-brown, predominantly microcrystalline (dolomicrite and dolosiltite)

2412 - 2421 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly silty

2421 - 2435 Dolomite, light-grayish-brown, microcrystalline (dolosiltite), slightly glauconitic and micaceous; grading into siltstone

2435 - 2451 Siltstone and very fine-grained sandstone, very light- and light-grayish-brown, slightly dolomitic, glauconitic; argillaceous in part

2451 - 2465 Siltstone as above

2465 - 2469 Dolomite, medium-brown, very finely and finely crystalline. Limestone, light-brown, lithographic; trace. Siltstone as above, trace. Chert, white; pinkish cast; trace

2469 - 2479 Limestone, light-brown, lithographic, fossiliferous, dolomitic; grading into dolomite. Siltstone as above. Shale, medium- and dark-brown, silty

2479 - 2489 Siltstone, light-brown, dolomitic; 90%. Limestone as above, micrograined in part, 10%. Shale, dark-grayish-brown; trace. Chert, white; trace

2489 - 2497 Dolomite, light-brown, microcrystalline to finely crystalline, "ribboned," fossiliferous or bioclastic, very slightly glauconitic. Siltstone or very fine-grained sandstone, light-pinkish-brown, siliceous, very slightly glauconitic. Shale, dark-grayish-brown; trace

2497 - 2509 Sandstone as above, 40%. Shale, dark-gray to greenish-gray; 30%. Limestone and dolomite as in sample from 2479 to 2497 feet, 30%. EAU CLAIRE FORMATION at 2504 feet (GRN)

2509 - 2528 Shale, dark-gray; 50%. Siltstone, light-brown to pinkish-brown, micaceous, very slightly glauconitic; 50%. Limestone and dolomite as above, trace

2528 - 2562 Siltstone as above and very fine-grained sandstone, 70%. Shale as above, 30%

2562 - 2577 Siltstone as above, micaceous, 80%. Shale, red, greenish-gray, micaceous; 20%

2577 - 2585 Siltstone as above, in part grading into micaceous shale, 80%. Shale as above, 20%. Limestone, reddish-gray, bioclastic, hematitic; trace

2585 - 2594 Siltstone as above, 80%. Shale as above, red to brownish red, 20%

2594 - 2613 Shale, dark-brown, reddish-brown; very micaceous in part; 60%. Siltstone as above, 20%. Limestone, light-brownish-gray, very light-gray, light-grayish-brown, predominantly lithographic, dolomitic, silty; 20%

2613 - 2622 Shale as above, 50%. Limestone as above, 50%

2622 - 2631 Limestone as above, 50%. Shale, medium-brownish-gray, red, dark-brownish-red; very micaceous in part; 50%

2631 - 2640 As above, limestone in part fine grained

2640 - 2648 Siltstone, light-brown, very slightly micaceous and glauconitic; 80%. Shale as above, 20%. Limestone as above, trace

2648 - 2657 Siltstone, light grayish brown in part, grading into siltstone, 70%. Shale as above, 30%

2657 - 2675 Sandstone, light-brown, pinkish-brown, very fine-grained, siliceous, glauconitic, slightly micaceous. Shale, limestone, and dolomite as above, trace

2675 - 2694 Sandstone as above

2694 - 2723 Sandstone as above, very glauconitic in part. Shale, reddish-brown; trace. Dolomite, light-gray, finely crystalline, glauconitic; trace

2723 - 2744 Sandstone as above, with laminations of very silty red and greenish-gray shale

2744 - 2753 Sandstone as above. Limestone and dolomite, light-gray, finely crystalline, glauconitic, hematitic; trace

2753 - 2802 As in sample from 2723 to 2744 feet

2802 - 2821 Sandstone, light-pinkish-brown, very fine-grained, glauconitic, slightly micaceous; 60%. Shale, dark-brownish-red, light- and medium-greenish-gray to gray, micaceous, very silty; 40%. Dolomite, light- and medium-gray, medium- and coarsely crystalline, glauconitic, sandy; trace

2821 - 2859 Sandstone as above. Sandstone, light- and medium-gray, very fine- and fine-grained, glauconitic; grading into dolomite. Shale as above, heavy trace. Dolomite, bioclastic; trace

2859 - 2871 Sandstone, light- and medium-gray, greenish-gray, very fine- and fine-grained, very glauconitic; 60%. Shale, dark-red, medium-greenish-gray, very glauconitic, silty; 40%

2871 - 2878 Sandstone as above, light pinkish brown in part, 70%. Shale as above, predominantly nonglauconitic, 30%

2878 - 2889 As in sample from 2859 to 2871 feet, shale slightly sandy (very fine- and fine-grained sand)

2889 - 2910 Sandstone, light-pinkish-brown, glauconitic, light-gray, very fine- and fine-grained; much angular medium- and coarse-grained sand (broken in part). Shale as above, heavy trace

2910 - 2921 Sandstone, very fine- to coarse-grained, glauconitic, very friable; broken in part

2921 - 2942 Sandstone, predominantly fine- and medium-grained, glauconitic, very friable; broken grains. Shale, medium-gray, dark-brownish-red; trace

2942 - 2975 Sandstone, very light-gray, light-pinkish-yellow, very fine- to medium-grained, slightly glauconitic, friable; some coarse-grained sand

2975 - 2995 Sandstone as above, nonglauconitic

2995 - 3008 Sandstone as above, light gray and slightly glauconitic in part. Shale, medium-gray, silty; heavy trace

3008 - 3020 Sand, very fine- to medium-grained, angular to rounded and frosted

3020 - 3045 Sand as above, fine to coarse grained, coarse grains predominantly rounded and frosted. MT. SIMON SANDSTONE at 3008 feet

3045 - 3060 Sand as above, predominantly medium grained

3060 - 3068 Sand, fine- and medium-grained, angular to rounded and frosted

3068 - 3095 Sand as above, fine to very coarse grained

3095 - 3117 Sand as above, predominantly coarse grained

3117 - 3126 Sand as above, predominantly medium and

coarse grained
3126 - 3152 Sand as above, predominantly coarse grained
3152 - 3161 Sand and sandstone, fine- to coarse-grained
3161 - 3172 Sand, predominantly medium-grained
3172 - 3189 Sand, predominantly medium- and coarse-grained
3189 - 3198 Sand and pink sandstone, fine- to very coarse-grained
3198 - 3208 Sand, fine- to coarse-grained
3208 - 3227 Sand, predominantly fine- and medium-grained
3227 - 3245 Sand, fine- to coarse-grained
3245 - 3256 Sand, predominantly fine-grained
3256 - 3276 Sand, fine- to coarse-grained
3276 - 3286 Sand as above. Granite. PRECAMBRIAN at 3280 feet; see McCormick (1961)
TD samples 3408 feet

Morgan County
Deerfield Township
Section 12

National Gas & Oil Corp.
#1 Barnes
Permit No. 536
Sample No. 204
Elevation (G) 925 feet

Depth (ft)
6399 - 6416 Limestone, medium-brown, slightly grayish, lithographic; dark-brown shale laminae and bird's-eye structures
6416 - 6437 Limestone as above. Limestone, medium-grayish-brown, micrograined, very argillaceous; grading into shale. Limestone, medium-brown, lithographic; minor. Shale, medium-green; trace
6437 - 6448 Limestone, medium-brown and light-grayish-brown, lithographic; light-grayish-brown portion argillaceous. Shale, medium-green and gray; minor
6448 - 6459 Shale, light-gray to light-greenish-gray, silty, dolomitic. Dolomite, light-gray, microcrystalline (dolosiltite), silty; minor
6459 - 6487 Shale as above, light-greenish-gray shale grading into dolomite. Shale, variegated dark-gray and greenish-gray
6487 - 6493 Shale, dark-brown. Sandstone, very light-gray and light-brown, very dolomitic, very fine-grained
6493 - 6497 Sand and sandstone, very fine- to medium-grained; grains generally rounded and subrounded, frosted in part. Shale, dark-gray; minor
6497 - 6501 Sand as above
6501 - 6505 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite). Sand as above, minor. Shale, light-greenish-gray; trace. KNOX DOLOMITE at 6502 feet
6505 - 6522 Dolomite as above. Dolomite, medium-brown, slightly grayish
6522 - 6528 Dolomite, very light-grayish-brown and light-brown, very finely crystalline
6528 - 6539 Dolomite, light- and medium-brown, very finely crystalline
6539 - 6542 Dolomite, very light-grayish-brown and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Sandstone, very light-gray, very fine-grained, slightly glauconitic and dolomitic; trace
6542 - 6547 Dolomite as above
6547 - 6552 Dolomite, very light-gray, microcrystalline (dolosiltite), very silty; very fine sample
6552 - 6556 Dolomite, very light-gray, microcrystalline (dolosiltite). Pyrite, heavy trace. Very fine sample
6556 - 6560 Dolomite as above. Dolomite, very light-brown
6560 - 6563 Dolomite as above, very finely sucrosic in large part, some chert in matrix
6563 - 6569 Dolomite, very light-gray and brown, microcrystalline (dolosiltite). Chert, white; trace
6569 - 6592 Dolomite as above
6592 - 6594 Dolomite as above, with dull luster (salt water zone?). Pyrite, trace
6594 - 6597 Dolomite, very light-gray and brown, microcrystalline (dolosiltite) and very finely crystalline
6597 - 6601 Dolomite as above. Sand, very fine-grained; trace
6601 - 6604 Dolomite as above, very sandy (rounded and subrounded very fine- and fine-grained sand). ROSE RUN sandstone
6604 - 6608 Dolomite, very light-gray and light- and medium-brown, very finely crystalline; sandy as above
6608 - 6610 Dolomite, very light- and light-gray and brownish gray, microcrystalline (dolosiltite); sandy as above
6610 - 6613 Sandstone, very light- and light-gray, very fine-grained, dolomitic to very dolomitic, friable; some medium-sized grains; sand grains rounded and frosted
6613 - 6617 Sandstone as above. Dolomite, very light-gray, microcrystalline (dolosiltite), very silty, minor. Sample stained dark brownish red from 6616 to 6617 feet
6617 - 6620 Sandstone and dolomite as in sample from 6613 to 6617 feet(?); very fine sample
6620 - 6622 Sand, very fine- and fine-grained, angular (broken?)
6622 - 6628 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite). Sand, fine-grained, subrounded to rounded and frosted; minor. Shale, medium-greenish-gray, silty; trace
6628 - 6631 Sand, fine-grained, angular to rounded and frosted. Dolomite as above, minor
6631 - 6635 Sandstone, very light-gray, fine- and medium-grained (rounded and frosted grains), dolomitic
6635 - 6642 Sand, fine-grained, angular (broken?); minor amount rounded and frosted
TD samples 6642 feet

Morrow County
Canaan Township
Section 33

Ashland Oil & Refining Co.
(formerly United Producing Co.) #3 Myers
Permit No. 12
Sample No. 1079
Elevation (KB) 1016 feet

Depth (ft)
Cored from 2970 to 3080 feet
KNOX DOLOMITE at 2978 feet (GRN). Samples start in Knox
3080 - 3090 Dolomite, light-yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline, silty; poor pinpoint porosity
3090 - 3100 Dolomite as above, 90%. Siltstone, very light-gray, slightly glauconitic and micaceous; 10%
3100 - 3110 Dolomite, very light-brown, microcrystalline (dolosiltite), silty; pinkish cast in part; poor pinpoint porosity; 90%. Siltstone, very light-grayish-brown, slightly micaceous; 10%
3110 - 3120 Siltstone, light-brownish-gray and brown, slightly glauconitic and micaceous; 60%. Dolomite as above, very silty, 40%
3120 - 3130 Siltstone, light-gray and greenish-gray, glauconitic, micaceous; argillaceous light-green laminations
3130 - 3135 No sample
3135 - 3150 Siltstone, light-brown, dolomitic; in small part grading into very silty dolomite
3150 - 3160 Dolomite, light-brown, microcrystalline (dolosiltite), very silty; in part grading into silt-

stone at 3155 feet

3160 - 3165 Dolomite, light-brown, microcrystalline (dolosiltite); pelletal in part (fine-grained grain-supported coated pellets)

3165 - 3170 Dolomite as above, medium brown in part, poor pinpoint porosity, pellets very fine and fine grained

3170 - 3175 Dolomite, light-brown, slightly grayish, microcrystalline (dolosiltite), fractured

3175 - 3185 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; in part pelletal (very fine- to medium-grained, grain-supported); perhaps oolitic; fair vuggy porosity

3185 - 3195 Dolomite, light- and medium-brown, very finely and finely crystalline

3195 - 3205 Dolomite as above, fine- and medium-grained, slightly glauconitic; fair vuggy porosity

3205 - 3210 Dolomite as above, very light-brownish-gray in part, sandy in part. Pyrite, heavy trace. Calcite crystals, trace. Sandstone, very light-gray, fine- and medium-grained; trace

3210 - 3215 Dolomite as above. Pyrite, heavy trace

3215 - 3220 Dolomite, very light-brown and grayish-brown, microcrystalline (dolosiltite), slightly glauconitic, sandy (fine-grained sand)

3220 - 3225 No sample

3225 - 3235 Dolomite, very light- and light-brown, very finely and finely crystalline, slightly glauconitic, sandy (very fine- and fine-grained sand)

3235 - 3240 Dolomite as above. Sandstone, very light-brown, fine-grained, slightly glauconitic, good intergranular porosity; trace

3240 - 3245 Dolomite as above

3245 - 3250 Dolomite, medium-brown, slightly grayish, finely crystalline, sandy to very sandy (fine- and medium-grained sand), pyritic; poor vuggy porosity

3250 - 3255 Dolomite as above, fine and medium grained in part, pelletal or oolitic in part (medium- and coarse-grained, grain-supported), fair vuggy porosity, slightly sandy (very fine- and fine-grained sand)

3255 - 3260 Dolomite as above, light brown in part

3260 - 3265 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline; sparry in part

3265 - 3270 Dolomite, light-yellowish-brown, microcrystalline (dolosiltite), pelletal (fine- and medium-grained, grain- and mud-supported); fine- and medium-grained subangular intraclasts

3270 - 3275 Dolomite, very light-brownish-gray to yellowish-gray, microcrystalline (dolosiltite), silty, sandy; grading into siltstone and fine-grained sandstone

3275 - 3280 Dolomite, medium-brown, very finely crystalline, oolitic and pelletal (fine- and medium-grained, grain- and mud-supported), sandy. Dolomite, light-gray, finely and medium-crystalline

3280 - 3295 Dolomite, very light-brownish-gray and gray, microcrystalline (dolosiltite), pelletal and intraclastic (fine- and medium-grained); sandy in part (fine- and medium-grained sand); recrystallized in part; vuggy porosity. Sandstone, very light-gray, fine-grained, slightly glauconitic; trace

3295 - 3315 Dolomite as above, light and medium brown in part

3315 - 3335 Dolomite as in sample from 3280 to 3295 feet, few coarse sand grains, becoming in part very sandy at 3330 feet. KERBEL FORMATION at 3315 feet

3335 - 3350 Dolomite as above. Sandstone, light-gray to brownish-gray, very fine- to coarse-grained, poorly sorted; trace

3350 - 3360 As above, dolomite in part grading into sandstone

3360 - 3365 Dolomite as above, very sandy, grading into sandstone; 99% cavings

3365 - 3370 Sandstone, very light-brown, fine- to coarse-grained, predominantly medium-grained; grading into dolomite. Dolomite, heavy trace. Cavings

3370 - 3375 Sandstone, light-brown, fine- and medium-grained

3375 - 3390 Sandstone, very light- and light-brownish-gray, very fine- and fine-grained, slightly dolomitic; some medium-grained sand

3390 - 3395 Sandstone, very light- and light-brownish-gray, very fine- and fine-grained, glauconitic to very glauconitic, slightly micaceous. Dolomite, medium-brown and gray, medium- and coarse-grained dolarenite, very glauconitic; shale laminations; trace. Siltstone, dark-brown, argillaceous; trace. CONASAUGA FORMATION at 3390 feet

3395 - 3410 Sandstone as above, nonglauconitic

3410 - 3415 Sandstone as above. Siltstone, dark-brown, argillaceous; heavy trace

3415 - 3420 Sandstone as above, 50%. Siltstone, light-brownish-gray to very light-grayish-brown, sandy (very fine-grained sand), dolomitic; 50%

3420 - 3430 Siltstone, very light-grayish-brown to medium-brown, dolomitic, sandy; dark-brown shale laminations. Sandstone as above, heavy trace

3430 - 3435 Sandstone, light-gray, very light-brownish-gray to light-brown, very fine- and fine-grained; dolomitic in part; glauconitic in part; very silty in part

3435 - 3440 Sandstone, light- and medium-gray, brown, brownish-gray, and greenish-gray, very fine-grained, silty, glauconitic, slightly dolomitic; silty dark-gray and brown shale laminations

3440 - 3445 Sandstone as above, light brownish gray, nonglauconitic

3445 - 3455 As in sample from 3435 to 3440 feet

3455 - 3460 Sandstone as above, 70%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), glauconitic, silty, sandy (very fine-grained sand); 30%

3460 - 3470 Dolomite as above, 90%. Sandstone as above, 10%

3470 - 3480 Sandstone, very light- and light-brown, very fine-grained, glauconitic to very glauconitic, fossiliferous, micaceous. Dolomite, light-brown, very glauconitic; coarse dolarenite (probably bioclastic); trace

3480 - 3490 Dolarenite as above, in part nonglauconitic. Dolomite, very light-brown, microcrystalline (dolosiltite), silty. Sandstone as above, with silty dark-brown to maroon shale laminations

3490 - 3495 Sandstone, very light-brown, fine-grained

3495 - 3500 Sandstone as above, glauconitic and very glauconitic in part. Bioclastic dolomite as above, trace

3500 - 3515 Sandstone as in sample from 3490 to 3495 feet, slightly glauconitic

3515 - 3520 Sandstone as above, very fine grained and silty in part. Bioclastic dolomite, trace

3520 - 3525 Sandstone as above. Dolomite, light-brown, microcrystalline (dolosiltite), silty; as fragments in sandstone; cracks in dolomite filled with very fine-grained sandstone

3525 - 3545 Sandstone as above. Dolomite, medium-brown, coarse-grained, sandy (very fine- to coarse-grained sand); glauconitic in part; trace. Do-

lomite, light-brown, microcrystalline (dolosiltite), sandy (fine-grained sand); fine- to coarse-grained in part; trace

3545 - 3550 Dolomite, medium-brown and very light-brownish-gray, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand, some coarse-grained sand); much sparry dolomite; in large part pelletal and intraclastic. Sandstone, light-brown, fine- and medium-grained; trace. ROME FORMATION at 3540 feet (GRN)

3550 - 3555 Dolomite, light-gray and very light-brownish-gray to grayish-brown and brown, microcrystalline (dolosiltite), pelletal and intraclastic (fine- and medium-grained), sandy (fine- and medium-grained sand); sparry dolomite. Sandstone as above, trace

3555 - 3570 Dolomite as above, medium brown in part, oolitic in part. Sandstone as above, trace

3570 - 3575 Dolomite as above, very sandy in part. Sandstone as above, heavy trace

3575 - 3585 Dolomite, very light-gray, light-gray, and yellowish-gray, microcrystalline (dolosiltite), slightly sandy to sandy (fine- and medium-grained sand); in part pelletal and oolitic (fine-and medium-grained); some sparry dolomite; poor vuggy porosity

3585 - 3590 No sample

3590 - 3605 Dolomite as above. Sandstone, very light-brown, fine-grained, trace

3605 - 3615 Dolomite as above, fair vuggy and pinpoint porosity, in part very sandy (very fine- and fine-grained sand), grading into sandstone

3615 - 3635 Dolomite, light-gray, light-yellowish-gray, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand); fine grained in part; grading into sandstone. Sandstone, very light-pinkish-brown, very fine- and fine-grained; some medium- and coarse-grained sand

3635 - 3650 Sandstone, very light-gray, light-yellowish-gray, very light-pinkish-brown, very fine- to medium-grained; very dolomitic in part. Dolomite as above, very sandy, heavy trace to 3645 feet

3650 - 3655 Sandstone, light-yellowish-gray and very light-pinkish-gray, fine- and medium-grained; some coarse-grained sand

3655 - 3670 Sandstone as above, predominantly very fine and fine grained

3670 - 3685 Sandstone as above, very fine- to medium-grained; trace coarse grained; 90%. Dolomite, medium-gray, microcrystalline (dolosiltite), sandy (medium- and coarse-grained sand); grading into sandstone; 10%

3685 - 3705 Dolomite, very light- and light-gray, light-yellowish-gray, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand); some pellets and oolites

3705 - 3720 Dolomite as above, light and medium brown in part

3720 - 3725 Dolomite, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine- and fine-grained sand); pelletal in part; some sparry dolomite

3725 - 3735 Sandstone, very light-brown to pinkish-gray, very fine- and fine-grained; 70%. Dolomite as above, very light and light brown, 30%

3735 - 3740 No sample

3740 - 3745 Sandstone as above, light to medium brown, in small part grading into sparry dolomite

3745 - 3750 Dolomite, light- to dark-brown, microcrystalline (dolosiltite), oolitic and pelletal (fine- to coarse-grained), sandy (fine- to coarse-grained sand); sparry dolomite; 60%. Sandstone, light-brown, very fine- to coarse-grained; 40%

3750 - 3765 Dolomite as above, 95%. Sandstone as above, 5%

3765 - 3780 Dolomite as above, mottled very light and dark gray in part, sandy (very fine-grained sand)

3780 - 3785 Dolomite as above, 80%. Sandstone, light-brown, very fine- and fine-grained; 20%

3785 - 3795 Dolomite as above, some medium- and coarse-grained sand, 60%. Sandstone as above, some medium- and coarse-grained sand, 40%

3795 - 3800 Sandstone, very light- and light-brown, very fine- to medium-grained; some coarse-grained sand; 80%. Dolomite, light- and medium-brown, medium-gray, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand); 20%

3800 - 3805 Sandstone as above, in part very light pinkish brown. Dolomite as above, trace

3805 - 3810 Sandstone as above, very fine and fine grained

3810 - 3815 Sandstone, very light- and light-brown, very fine- to coarse-grained; grading into oolitic and pelletal dolomite

3815 - 3830 Dolomite, light-brown, microcrystalline (dolosiltite), pelletal and oolitic, sandy (very fine sand, some fine- to coarse-grained sand). Sandstone as above, trace

3830 - 3840 Dolomite as above, grading into very fine- and fine-grained sandstone

3840 - 3850 Sandstone, very light- and light-brown, fine- and medium-grained, some coarse-grained sand; grading into pelletal and fine-grained intraclastic dolomite, medium gray in part

3850 - 3865 Dolomite, light-grayish-brown to dark-brown, microcrystalline (dolosiltite), pelletal and intraclastic, silty, very sandy (very fine-grained sand); grading into sandstone

3865 - 3870 Sandstone, light-pinkish-brown, brown, very fine- to coarse-grained, poorly sorted; 70%. Dolomite as above, with fine- to coarse-grained sand, 30%. MT. SIMON SANDSTONE at 3865 feet

3870 - 3885 Sandstone as above, in part colorless with dark-brown oolites, dark gray and brown in part

3885 - 3985 Sandstone, light-pinkish-gray, light-brown, very fine- to very coarse-grained, friable

3985 - 3990 Sandstone, colorless, very light-brown, fine- to coarse-grained. Shale, dark-grayish-green, silty, micaceous, heavy trace

3990 - 3995 Sandstone as above

3995 - 4000 Sandstone as above, conglomeratic

4000 - 4010 Granite gneiss or pink granite. PRECAMBRIAN at 4002 feet (GRN)

4010 - 4015 Gneiss or granite as above. Biotite-quartz gneiss or schist

4015 - 4090 Samples not examined

TD samples 4090 feet

Morrow County
Peru Township
Lot 16, 1st quarter

Kin-Ark Oil Co. & Stocker & Sitler #5 Shaver-Neff Unit
Permit No. 1681
Sample No. 1300
Elevation (KB) 1007 feet

Depth (ft)

Cincinnatian shale cavings throughout Sauk sequence

3000 - 3050 Limestone, light- to dark-brown, lithographic (predominantly); microcrystalline to very finely crystalline in part; dolomitic and argillaceous in part

3050 - 3060 Limestone as above. Shale, medium-green, pyritic; trace. KNOX DOLOMITE at 3051

feet (GRN)

3060 - 3080 As above. Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite); pyritic in part; poor pinpoint to vuggy porosity

3080 - 3120 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline; fair porosity as above; very finely sucrosic in part

3120 - 3140 Dolomite as above, poor porosity as above, very slightly glauconitic (silt-sized glauconite specks)

3140 - 3160 Dolomite as above, fair porosity as above

3160 - 3180 Dolomite as above, more than 95% shale cavings

3180 - 3250 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, very slightly glauconitic

3250 - 3270 Dolomite as above. Siltstone, very light-gray, very light-brown, dolomitic, pyritic, slightly glauconitic; trace

3270 - 3380 Dolomite as above

3380 - 3410 Dolomite, very light-yellowish-brown to medium-brown, microcrystalline (dolosiltite) to medium-crystalline, sandy (very fine- and fine-grained sand), slightly glauconitic. Sandstone, very light-gray, very fine- and fine-grained, slightly glauconitic; trace

3410 - 3420 Dolomite as above. Sandstone, light-greenish-gray, very fine- and fine-grained, slightly micaceous; trace

3420 - 3440 Dolomite as above

3440 - 3460 Dolomite, light- and medium-brown and very light-yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy (very fine- and fine-grained sand); sucrosic in part; with poor pinpoint porosity. Sandstone, very light-gray, very fine- and fine-grained; trace. Gypsum, trace

3460 - 3470 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand), very slightly glauconitic

3470 - 3480 Dolomite as above. Dolomite, light-brown; poor pinpoint porosity

3480 - 3490 Dolomite as above, microcrystalline (dolosiltite) to finely crystalline, sucrosic in part

3490 - 3500 Dolomite, light-yellowish-gray, light-gray, light-brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline, sandy (very fine- to medium-grained sand); pelletal and oolitic (fine- to coarse-grained, mud-supported) in part. KERBEL FORMATION at 3490 feet

3500 - 3520 Dolomite as above, light yellowish gray

3520 - 3560 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- to coarse-grained sand); grading into sandstone

3560 - 3570 Sandstone, very fine- to coarse-grained, predominantly medium-grained, friable. Dolomite as above, heavy trace

3570 - 3580 As above, sandstone predominantly fine grained

3580 - 3590 Sandstone, very light-yellowish-brown, light-brown, predominantly very fine- and fine-grained, dolomitic. Dolomite, very light-grayish-brown, microcrystalline (dolosiltite), sandy; heavy trace

3590 - 3610 Sandstone as above. Siltstone, medium- and dark-brown, dolomitic; heavy trace. CONASAUGA FORMATION at 3590 feet

3610 - 3630 Sandstone, very light- and light-brown, very fine- and fine-grained, silty, glauconitic, micaceous; 70%. Siltstone as above, glauconitic, slightly micaceous; 20%. Shale, dark-grayish-brown, micaceous; 10%

3630 - 3670 Siltstone as above, grading into dolomite. Sandstone as above, heavy trace. Predominantly cavings

3670 - 3685 Sandstone, light-pinkish-brown, very fine-grained, glauconitic; cavings

3685 - 3700 Sandstone as above. Sandstone, light- and medium-brown, very fine-grained, slightly micaceous

3700 - 3710 Sandstone as above. Dolomite, very light-brownish-gray, microcrystalline (dolosiltite); trace

3710 - 3720 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolosiltite), sandy (coarse-grained sand). ROME FORMATION at 3700 feet (GRN)

3720 - 3730 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (fine- to coarse-grained sand), pelletal (fine- and medium-grained, mud-supported)

3730 - 3740 Dolomite as above. Dolomite, very light- and light-gray, microcrystalline (dolosiltite)

3740 - 3770 Dolomite, very light- and light-gray, grayish-brown, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline, sandy (very fine- to medium-grained sand); fine- and medium-grained dolarenite in part; pelletal in part (fine- and medium-grained, mud-supported)

3770 - 3790 Dolomite, very light-grayish-brown, gray, brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand)

3790 - 3800 Dolomite as above, very sandy. Sandstone, very light-pinkish-gray, very fine- and fine-grained; trace

3800 - 3820 As above, dolomite grading into sandstone

3820 - 3860 Dolomite as above, grading into fine- to coarse-grained sandstone

3860 - 3880 Dolomite, very light-gray, grayish-brown, and brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand). Sandstone, very light-pinkish-brown, very fine and fine-grained; trace

3880 - 3890 Dolomite, very light-grayish-brown and brown, microcrystalline (dolosiltite) and very finely crystalline; slightly sandy as above

3890 - 3920 Dolomite as above, predominantly light brown

3920 - 3940 Dolomite, light-grayish-brown to medium-brown, microcrystalline (dolosiltite) and very finely crystalline, pelletal, pisolitic, oolitic, sandy (very fine- to medium-grained sand)

3940 - 3980 Dolomite as above, dark brown in part, sandy to very sandy (very fine- to coarse-grained sand), slightly sandy from 3950 to 3960 feet (very fine- to medium-grained sand)

3980 - 3990 Sandstone, very light-brown and pinkish-brown, very fine- to coarse-grained, dolomitic. Dolomite as above, heavy trace

3990 - 4000 Sandstone as above, light brown, light and medium brownish gray in part. Dolomite as above, heavy trace

4000 - 4010 Dolomite, medium- and dark-brown, microcrystalline, pelletal, oolitic, sandy; 70%. Sandstone, very light-pinkish-brown and brown, very fine- and fine-grained; 30%

4010 - 4040 Dolomite as above, some medium- and coarse-grained sand, 90%. Sandstone as above, 10%

4040 - 4060 Sandstone, very light-brown, pinkish-gray, very fine- to coarse-grained, friable; 70%. Dolomite as above, 30%. MT. SIMON SANDSTONE at 4043 feet

4060 - 4070 Sandstone as above

4070 - 4090 Cavings

4090 - 4110 Sandstone, very light-brown, pinkish-gray,

predominantly medium- to very coarse-grained, friable

4110 - 4120 Cavings

4120 - 4180 Sandstone as in sample from 4090 to 4110 feet

4180 - 4190 Cavings

4190 - 4200 Sand, medium- and coarse-grained. Granite or granite gneiss, pink. Shale, medium-greenish-gray, micaceous; trace. Arkose, trace. PRE-CAMBRIAN at 4195 feet

4200 - 4215 Granite or gneiss as above. Arkose (fine- to coarse-grained sand in yellowish-pink matrix), trace

TD samples 4215 feet

Morrow County
Troy Township
Section 18

Pan American Petroleum Corp. #1 Windbigler
Permit No. 47
Sample No. 1033
Elevation (KB) 1398 feet

Depth (ft)

Core from 3853 to 4026 feet. KNOX DOLOMITE at 3896 feet (GRN)

4025 - 4030 Dolomite, very light-brown to yellowish-brown, microcrystalline and very finely crystalline; slightly pyritic in part

4030 - 4035 Dolomite as above. Dolomite, light-gray, silty. Siltstone, light-gray, dolomitic; minor

4035 - 4045 Dolomite, light-brown to yellowish-brown, very finely and finely crystalline

4045 - 4055 Dolomite as above. Sandstone, light-gray, very fine-grained, glauconitic, slightly dolomitic; heavy trace

4055 - 4070 Dolomite, light-yellowish-gray, light-brown, light-gray, very finely and finely crystalline, slightly glauconitic; sandy in part (very fine- to medium-grained sand)

4070 - 4075 Dolomite, light-brown to very light-yellowish-brown, very finely crystalline, silty. Siltstone, dolomitic; trace

4075 - 4090 Dolomite as above, sandy, grading into very fine-grained dolomitic sandstone

4090 - 4100 Sandstone, white to very light-gray, very fine-grained, dolomitic, slightly glauconitic

4100 - 4115 Dolomite, light-brown, very finely and finely crystalline, slightly pyritic; slight pinpoint porosity

4115 - 4145 Dolomite, light-brown, finely crystalline, slightly glauconitic (to 4120 feet), slightly pyritic; medium and coarse grained in part

4145 - 4150 Dolomite, light-brown, finely and medium-crystalline, slightly glauconitic; sandy to very sandy in part. Sandstone, white, fine- and medium-grained, glauconitic; 10%

4150 - 4160 Dolomite and sandstone as above, some chips consisting of dolomite bounded with sharp contact by sandstone

4160 - 4165 Dolomite as above. Sandstone as above, trace

4165 - 4170 Dolomite, very light-grayish-brown to medium-brown, very finely to medium-crystalline, sandy in part (very fine- and fine-grained sand)

4170 - 4195 Dolomite as above. Sandstone, white and light-brown, fine-grained, dolomitic, slightly glauconitic; heavy trace

4195 - 4200 Dolomite as above, medium grained in part

4200 - 4205 Dolomite, very light-grayish-brown to yellowish-gray, very finely and finely crystalline; sandy in part (fine-grained sand)

4205 - 4210 Dolomite as above, white in part

4210 - 4220 Dolomite, predominantly white, very sandy

4220 - 4235 Dolomite, very light-brown to yellowish-brown, finely crystalline, sandy (fine-grained sand); in part medium grained

4235 - 4240 Dolomite, light- and medium-brown, finely crystalline, sandy (fine-grained sand)

4240 - 4245 Dolomite, white to very light-yellowish-brown, sandy to very sandy. Sandstone, light-gray, fine-grained, slightly glauconitic(?)

4245 - 4250 Dolomite as above

4250 - 4260 Siltstone, light- to dark-brown and grayish-brown, glauconitic, dolomitic

4260 - 4270 Dolomite as in sample from 4240 to 4245 feet, sand fine to coarse grained. KERBEL FORMATION at 4260 feet

4270 - 4290 Sandstone, light-yellowish-gray, fine- and medium-grained, dolomitic; grading to very sandy dolomite (rounded fine- to coarse-grained sand)

4290 - 4315 Sandstone, light-gray to yellowish-gray, fine- and medium-grained; dolomitic in part

4315 - 4325 Sandstone, dark-brown, fine-grained, slightly dolomitic. Shale, dark-brown, very silty, slightly dolomitic. CONASAUGA FORMATION at 4315 feet

4325 - 4330 Sandstone, light-gray and grayish-brown, fine-grained, slightly dolomitic. Shale, medium-gray; trace

4330 - 4355 Sandstone as above. Dolomite, dark-brown, microcrystalline, very silty. Shale, dark-brown, dolomitic

4355 - 4365 As above, sandstone glauconitic in part

4365 - 4400 Sandstone, light-gray to brownish-gray, fine-grained, dolomitic, very glauconitic. Shale as above

4400 - 4405 Sandstone as above, micaceous (muscovite). Shale as above, trace

4405 - 4410 No sample

4410 - 4440 Dolomite, light-gray to brownish-gray, dense to very finely crystalline, sandy (fine- and medium-grained sand). ROME FORMATION at 4405 feet (GRN)

4440 - 4450 Dolomite as above. Dolomite, medium- and dark-brown

4450 - 4455 Dolomite, very light-yellowish-brown to medium-brown, medium- and coarse-grained, finely crystalline; pelletal in part; sandy and very silty in part (fine-grained sand)

4455 - 4460 Dolomite as above, very light yellowish brown to dark brown, dolomite not pelletal

4460 - 4465 Dolomite as above, light yellowish gray in part, fossiliferous(?)

4465 - 4470 Dolomite, light-gray to yellowish-gray and light-brownish-gray, very finely and finely crystalline, fossiliferous(?); coarse grained in part

4470 - 4475 Dolomite as in sample from 4455 to 4460 feet. Dolomite as above, minor

4475 - 4480 Dolomite, light-gray and light- and medium-brown, very finely to medium-crystalline, slightly sandy; medium and coarse grained in part; vuggy and pinpoint porosity

4480 - 4485 Dolomite, light- and medium-gray, very finely crystalline, slightly sandy (very fine-grained sand)

4485 - 4490 Dolomite as above. Dolomite, light-yellowish-gray, very finely and finely crystalline, sandy (very fine- to medium-grained sand); vuggy porosity

4490 - 4500 Dolomite as above. Sandstone, light-gray, medium-grained; trace (to 4495 feet)

4500 - 4505 No sample

4505 - 4510 Dolomite, light-brownish-gray to medium-brown and medium-gray, very finely and finely crystalline, sandy (fine and medium-grained sand); medium- and coarse-grained in part; slight vuggy porosity

4510 - 4515 Dolomite as above, slightly pelletal

4515 - 4520 Dolomite as in sample from 4505 to 4510 feet

4520 - 4525 Dolomite as above, sand in dolomite fine to coarse grained

4525 - 4530 Dolomite, light-yellowish-gray, very finely and finely crystalline, pelletal, sandy (fine-grained sand)
4530 - 4540 Dolomite as above. Dolomite, light- and medium-brownish-gray, very sandy (fine- and medium-grained sand)
4540 - 4550 Dolomite as above. Sandstone, pinkish-gray, fine-grained; trace
4550 - 4560 Dolomite, light-yellowish-gray and light-brownish-gray, very finely crystalline, very sandy; grading into fine-grained sandstone
4560 - 4565 Dolomite as above, sand fine to coarse grained
4565 - 4570 Dolomite as above. Limestone, dark-brown, sandy, dense, fossiliferous; trace
4570 - 4575 Sandstone, pink, fine- and medium-grained, dolomitic
4575 - 4595 Sandstone as above. Dolomite, light-brownish-gray, dense, very sandy (predominantly fine-grained sand)
4595 - 4600 Dolomite, light-yellowish-gray, very finely crystalline, sandy (very fine- to medium-grained sand, predominantly fine), grading into very dolomitic sandstone
4600 - 4620 Dolomite as above, in part light yellowish brown, vuggy porosity. Sandstone as above
4620 - 4625 Dolomite, very light- to medium-yellowish-brown, very finely crystalline, dense, slightly sandy; recrystallized biostrome(?)
4625 - 4630 Dolomite, medium- and dark-brown, very finely crystalline. Dolomite as above, minor
4630 - 4635 Dolomite as above, brown. Dolomite, light- and medium-gray to brownish-gray, very finely crystalline, sandy (fine- to coarse-grained sand); vuggy porosity
4635 - 4640 Sandstone, light-yellowish-gray, fine- and medium-grained, slightly glauconitic, dolomitic to very dolomitic
4640 - 4650 Dolomite, medium- and dark-brown, fine- and medium-grained, very finely crystalline, very slightly sandy (fine-grained sand), pelletal
4650 - 4665 Dolomite as above, sandy (fine- to coarse-grained sand). Sandstone, light-gray and brownish-gray, fine- and medium-grained, heavy trace to trace
4665 - 4680 Dolomite as above, oolitic(?) in part. Sandstone as above, trace
4680 - 4690 Dolomite as above. Sandstone, light-gray, poorly sorted, conglomeratic(?); trace
4690 - 4710 Dolomite as above, sandy to very sandy. Sandstone, pinkish-gray to light-brownish-gray
4710 - 4725 Dolomite, very sandy, or sandstone, very dolomitic, light-brownish-gray to dark-brown, pelletal and oolitic (?); sand poorly sorted
4725 - 4735 As above. Sandstone, light-pinkish-gray, fine- and medium-grained; trace
4735 - 4750 As above. Dolomite, dark-brown, dense, very silty
4750 - 4865 Sandstone, white to light-gray, pinkish-gray, fine- to coarse-grained, moderately sorted. Dolomite as above, very sandy; minor. MT. SIMON SANDSTONE at 4750 feet
4865 - 4870 Sandstone, pink, feldspathic
4870 - 4890 Gneiss(?) (quartz, basic plagioclase, hornblende). PRECAMBRIAN
TD samples 4890 feet

Morrow County
Westfield Township
Section 21

Wehmeyer & Co. #1 Henry
Permit No. 33
Sample No. 1036
Elevation (KB) 995 feet

Depth (ft)
2850 - 2875 Limestone, very light-brownish-gray, very light- to medium-brown, lithographic, slightly fossiliferous
2875 - 2880 Limestone as above, micrograined to fine grained in part
2880 - 2885 No sample
2885 - 2895 Dolomite, light-brown, slightly grayish, microcrystalline (dolosiltite) to finely crystalline; very poor vuggy porosity. KNOX DOLOMITE at 2880 feet
2895 - 2920 Dolomite as above, slightly pyritic, fair vuggy porosity, very slightly glauconitic in part, pyritic in part, sucrosic in part
2920 - 2950 Dolomite, light-brown, slightly grayish, microcrystalline (dolosiltite) to finely crystalline, very slightly glauconitic; slightly sucrosic in part; poor pinpoint porosity
2950 - 2955 Dolomite, very light-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline; poor pinpoint porosity
2955 - 2980 Dolomite, light-brown, very finely and finely crystalline, very slightly glauconitic; sucrosic in part; fair pinpoint to vuggy porosity
2980 - 2995 Dolomite, very light-brownish-gray to grayish-brown, microcrystalline (dolosiltite), very slightly glauconitic; much sparry dolomite. Dolomite as above
2995 - 3020 Dolomite, very light-grayish-brown to light-grayish-brown to light-brown, microcrystalline (dolosiltite) to finely crystalline, very slightly glauconitic and pyritic
3020 - 3030 Dolomite as above. Soft white material (gypsum?) with waxy luster in matrix. Shale, dark-grayish-green, micaceous; trace
3030 - 3035 As above. Soft white material with glauconitic clay and mica, heavy trace to trace
3035 - 3050 Dolomite as above, light gray in part, glauconitic, 80%. Soft material as above, white and light gray, micaceous, glauconitic, 20%
3050 - 3060 Dolomite as above, nonglauconitic. Soft white material as above, heavy trace
3060 - 3075 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline; poor pinpoint porosity
3075 - 3090 Dolomite as above. Siltstone, light-gray, glauconitic, dolomitic; 10% to heavy trace
3090 - 3140 Dolomite as above, poor pinpoint and vuggy porosity, sucrosic in part, slightly pyritic
3140 - 3190 Dolomite as above, finely crystalline in part
3190 - 3225 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite) to finely crystalline, slightly sandy (very fine- and fine-grained sand). Sandstone, very light-gray, very fine- and fine-grained, dolomitic, slightly glauconitic; trace to 3195 feet
3225 - 3255 Dolomite as above. Sandstone as above, heavy trace to trace
3255 - 3270 Dolomite, very light-gray, grayish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine- and fine-grained sand)
3270 - 3280 Dolomite as above, predominantly very light gray, microcrystalline (dolosiltite)
3280 - 3285 Dolomite, very light-gray, light-grayish-brown, brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- and fine-grained sand)
3285 - 3300 Dolomite as above and medium brown to grayish brown, pelletal
3300 - 3310 Dolomite, very light- and light-gray, light-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand); pelletal in part. KERBEL FORMATION at 3300 feet
3310 - 3325 Dolomite, very light- and light-gray, microcrystalline, sandy to very sandy (very fine- and fine-grained sand)
3325 - 3330 Dolomite as above, very sandy (medium-grained

sand), grading into sandstone

3330 - 3335 Dolomite and sandstone as above. Dolomite, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite), sandy; pelletal in part

3335 - 3345 As above, sand in dolomite and sandstone in part coarse grained

3345 - 3350 Sandstone, very light-gray, very light- and light-brown, fine- to coarse-grained, dolomitic; 70%. Dolomite, light-brown, microcrystalline (dolomicrite) and very finely crystalline, sandy to very sandy; 30%

3350 - 3365 Sandstone as above, medium to coarse grained

3365 - 3380 Sandstone, very light-gray and brown, very fine- to coarse-grained, dolomitic

3380 - 3390 Sandstone as above, predominantly very fine and fine grained

3390 - 3405 Sandstone as above, laminations of silty dark-brown shale. Siltstone, dark-brown; trace. CONASAUGA FORMATION at 3390 feet

3405 - 3410 Siltstone, medium-brown, dolomitic; grading into dolomite; 60%. Sandstone, very light- and light-brown, very fine- and fine-grained, dolomitic; 40%

3410 - 3420 Sandstone as above, very slightly glauconitic, 80%. Shale, dark-brown, silty; 20%. Siltstone as above, trace

3420 - 3430 Sandstone, very light-brownish-gray to light-brown, very fine- and fine-grained, glauconitic, slightly micaceous. Shale as above, micaceous, heavy trace to trace

3430 - 3440 Sandstone as above, 50%. Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite), silty, sandy (very fine-grained sand), micaceous, slightly glauconitic; 50%

3440 - 3450 Dolomite as above, 80%. Sandstone as above, 20%

3450 - 3460 Dolomite, light-brown, microcrystalline, silty, micaceous, sandy. Sandstone as above, slightly glauconitic, heavy trace. Shale, dark-brown, medium-greenish-gray, silty; trace

3460 - 3465 Sandstone, very light-brownish-gray to light-brown, very fine- and fine-grained, glauconitic, micaceous. Dolomite as above, heavy trace

3465 - 3470 Sandstone as above, 70%. Dolomite as above, 30%

3470 - 3505 Sandstone, light-yellowish-gray to very light-yellowish-brown, very fine- and fine-grained, glauconitic, slightly micaceous

3505 - 3510 Sandstone as above. Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite), silty, sandy

3510 - 3515 Sandstone as above. Dolomite as above, slightly micaceous; trace. ROME FORMATION at 3510 feet

3515 - 3520 Sandstone as above, 50%. Dolomite as above, 50%. Sand, medium-grained, rounded; trace

3520 - 3530 Sandstone, light- and medium-brown, fine-grained, slightly glauconitic; grading into dolomite

3530 - 3540 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand); some pellets. Sandstone, light-gray, fine-grained; heavy trace

3540 - 3550 Dolomite, very light- and light-brown and grayish-brown, microcrystalline (dolomicrite and dolosiltite), sandy (fine- and medium-grained sand); pelletal and oolitic in part

3550 - 3555 Dolomite as above, medium brown in part

3555 - 3570 Dolomite, light-gray, microcrystalline (dolomicrite). Dolomite, light- and medium-brown, very finely and finely crystalline, pelletal, sandy (very fine- and fine-grained sand)

3570 - 3575 Brown dolomite as above. Dolomite, very light-brownish-gray, microcrystalline (dolosiltite), sandy; grading into fine-grained sandstone

3575 - 3585 Dolomite, very light- and light-gray and brownish-gray, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline, sandy (very fine- to medium-grained sand)

3585 - 3605 Dolomite as above, sandy to very sandy. Sandstone, very light-pinkish-gray, fine-grained; heavy trace

3605 - 3610 Dolomite, very light-gray and brownish-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy (very fine- to medium-grained sand)

3610 - 3620 Dolomite as above. Sandstone, light-yellowish-gray, fine-grained; heavy trace

3620 - 3625 Dolomite, very light-gray, brownish-gray, yellowish-gray, microcrystalline (dolomicrite and dolosiltite), sandy; grading into fine- and medium-grained sandstone

3625 - 3630 As above, predominantly sandstone

3630 - 3665 Sandstone, very light- and light-gray, brown, fine- and medium-grained, dolomitic; some coarse-grained sand; in small part grading into pelletal dolomite

3665 - 3670 Cavings

3670 - 3685 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (fine- to coarse-grained sand); in small part grading into sandstone

3685 - 3690 Dolomite as above, pelletal and oolitic in part (medium-grained)

3690 - 3730 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (fine- and medium-grained sand)

3730 - 3740 Dolomite as above, sandy to very sandy (fine- to coarse-grained sand). Dolomite, medium-brown, very finely crystalline, pelletal, sandy (very fine- and fine-grained sand)

3740 - 3750 Dolomite, light- to dark-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy (very fine- to coarse-grained sand), pelletal

3750 - 3790 Dolomite as above, oolitic in part

3790 - 3800 Sandstone, very light- and light-brown, light-pinkish-gray to yellowish-gray, fine- and medium-grained; some coarse-grained sand; 70%. Dolomite, medium-gray, medium- and dark-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy, pelletal; 30%

3800 - 3805 Sandstone as above, 50%. Dolomite as above, light brown in part, 50%

3805 - 3810 As in sample from 3790 to 3800 feet

3810 - 3820 Dolomite, light- and medium-brown, gray, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand), pelletal, oolitic. Sandstone as above, heavy trace

3820 - 3825 Dolomite, medium- and dark-brown, microcrystalline (dolomicrite and dolosiltite), pelletal, sandy (very fine-grained sand)

3825 - 3830 Dolomite as above, oolitic in part

3830 - 3835 Dolomite, light-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand), pelletal; 50%. Sandstone, light-pinkish-gray to yellowish-gray, fine- and medium-grained; 50%

3835 - 3840 Sandstone as above, some coarse-grained sand, 80%. Dolomite as above, 20%

3840 - 3845 Dolomite, light- and medium-brown, grayish-brown, microcrystalline (dolosiltite), pel-

letal, sandy to very sandy (very fine-grained sand). Sandstone, light-brown, very fine- and fine-grained, dolomitic; heavy trace

3845 - 3855 Dolomite as above, dark brown in part, 90%. Sandstone as above and light yellowish gray to pinkish gray, 10%

3855 - 3865 Dolomite as above, 50%. Sandstone as above, some coarse-grained sand, 50%

3865 - 3870 Sandstone as above, 70%. Dolomite as above, 30%. MT. SIMON SANDSTONE at 3865 feet

3870 - 3890 Sandstone, very light-gray, light-pinkish-gray and yellowish-gray, fine- to coarse-grained, friable. Dolomite as above, heavy trace. Gypsum, trace

3890 - 3910 Sandstone as above. Dolomite as above, trace

3910 - 3960 Sandstone as above, predominantly medium and coarse grained, very friable

3960 - 3975 Sandstone as above, medium to very coarse grained

3975 - 3995 Sand, fine- to coarse-grained

3995 - 4000 Sand, fine- and medium-grained. Shale, dark-gray, medium-greenish-gray, micaceous; heavy trace

4000 - 4005 Sand and sandstone, fine- to coarse-grained; 60%. Shale as above, 40%

4005 - 4010 Sand and sandstone as above, 90%. Fresh orthoclase, minor plagioclase, 10%. Shale as above, trace. PRECAMBRIAN at 4009 feet

4010 - 4035 Granite gneiss or granite

4035 - 4048 Hornblende-rich granite or granite-gneiss, rich in mica from 4045 to 4048 feet

TD samples 4048 feet

Muskingum County
Blue Rock Township
Section 11

National Gas & Oil Corp.
#1 Crawford
Permit No. 778
Sample No. 223
Elevation (GL) 982 feet

Depth (ft)

Samples above 6695 feet not examined

6695 - 6704 Limestone, very light- to medium-brown, lithographic. Limestone, dark-brown, very argillaceous

6704 - 6720 Limestone as above. Limestone, light-brown, fine-grained. Shale, medium- and dark-grayish-green, pyritic, sandy. Top of Glenwood-Wells Creek

6720 - 6736 Dolomite, light-gray, microcrystalline, very silty, slightly argillaceous. Limestone as above, minor

6736 - 6740 Dolomite, light- and medium-gray and greenish-gray, microcrystalline, silty; argillaceous in part

6740 - 6745 Dolomite as above. Siltstone, light-brown to brownish-gray, dolomitic

6745 - 6748 Dolomite as above, very finely crystalline in part. Shale, dark-grayish-green

6748 - 6752 Limestone, light-gray, lithographic. Dolomite, light-gray to greenish-gray, silty, argillaceous. Shale, dark-gray to greenish-gray; very dolomitic in part

6752 - 6753 Dolomite, light-gray, microcrystalline, silty

6753 - 6757 As above. Dolomite, light-gray, very finely crystalline, silty, sandy (very fine-grained sand)

6757 - 6772 Dolomite, light-gray, microcrystalline and very finely crystalline; silty and sandy as above. Shale, medium- and dark-green

6772 - 6777 Shale, medium-gray. Dolomite as above. Dolomite, very light-brown, medium-crystalline; trace. KNOX DOLOMITE at 6775 feet

6777 - 6780 Dolomite, very light-gray, microcrystalline to medium-crystalline. Sand, fine-grained, rounded; trace. Sample stained rusty yellow

6780 - 6783 Dolomite, very light- and light-gray, microcrystalline to medium-crystalline. Shale, light-green; trace

6783 - 6786 Dolomite as above. Sandstone, white, very fine-grained, slightly dolomitic; trace

6786 - 6790 Dolomite, very light-yellowish-gray, very finely to medium-crystalline; abundant dolomite crystals

6790 - 6793 Dolomite as above, sample size of very fine-grained sand

TD samples 6793 feet

Muskingum County
Salt Creek Township
Section 10

National Gas & Oil Corp.
#1 Wickham
Permit No. 787
Sample No. 203
Elevation (T) 905 feet

Depth (ft)

Samples above 6453 feet not examined

6453 - 6478 Limestone, medium- and dark-brown, lithographic. Limestone, very light-gray, fine-grained

6478 - 6500 Limestone, light- to dark-brown, lithographic. Shale, dark-gray to grayish-green. Glenwood-Wells Creek at 6480 feet

6500 - 6519 Limestone as above. Shale as above, silty in part

6519 - 6524 Shale as above. Dolomite, light-gray and light-greenish-gray, light-brown, microcrystalline, silty. Limestone as above, minor

6524 - 6530 As above. Limestone, very light-brownish-gray, lithographic

6530 - 6536 Dolomite, light-gray, very finely and finely crystalline, silty, sandy. Shale as above

6536 - 6543 As above. Sand, fine-grained, rounded; trace

6543 - 6554 Dolomite, light-yellowish-gray to light-brown, very finely and finely crystalline. Sand, medium- and coarse-grained, rounded. KNOX DOLOMITE at 6543 feet

6554 - 6560 Dolomite, very light-gray, very finely crystalline, slightly sandy and silty (very fine-grained sand). Sand as above, trace

6560 - 6589 Dolomite as above, in part very light grayish brown, very fine sample

6589 - 6597 Dolomite, light-yellowish-gray to light-grayish-brown, finely crystalline, sucrosic

6597 - 6610 As above, very fine sample

6610 - 6617 Dolomite as above, in part sandy (subangular and subrounded very fine- and fine-grained sand) and slightly glauconitic. Top ROSE RUN(?) sandstone at 6615 feet

6617 - 6626 Sand, fine-grained, rounded. Siltstone, light-gray, slightly glauconitic; sandy in part

6626 - 6642 Sand, very fine- and fine-grained, angular to rounded. Sandstone, very fine- and fine-grained, dolomitic; minor

6642 - 6691 As above, sand medium grained in part

6691 - 6697 Dolomite, light- and medium-gray to brownish-gray, very finely crystalline, slightly sandy. Sand as above, heavy trace

6697 - 6717 Sand as above, fine and medium grained. Sandstone, dolomitic; minor

6717 - 6720 Sand as above. Siltstone, light-gray, dolomitic

6720 - 6724 Dolomite, light-gray, microcrystalline and very finely crystalline, sandy to very sandy (angular very fine- and fine-grained sand)

6724 - 6728 Dolomite as above, very light gray to light grayish brown

6728 - 6730 Dolomite as above. Siltstone, dark-brown, dolomitic

6730 - 6732 Dolomite as above, very light to dark gray and grayish brown. Siltstone as above

6732 - 6734 Sandstone, light- and medium-gray and brown-

ish-gray, fine-grained, dolomitic

6734 - 6737 Sandstone as above. Sand, fine-grained, angular. Dolomite, very light-gray, microcrystalline, sandy, silty

6737 - 6740 Dolomite, light-gray, microcrystalline, silty, very slightly sandy (very fine sand)

6740 - 6743 Dolomite, light-brown, silty and very sandy (very fine-grained sand); size of sample that of very fine sand

6743 - 6748 Dolomite, light-brown, very finely crystalline, silty, sandy (very fine-grained sand)

6748 - 6758 Dolomite, light-yellowish-gray and very light-brown, silty, slightly sandy (very fine-grained sand)

6758 - 6770 Sand, fine-grained. Sandstone, light- and medium-gray and brown, fine-grained, dolomitic. Dolomite, medium-gray, very finely crystalline, sandy, silty; minor

6770 - 6784 Dolomite, very light- and light-gray and light-brown, very finely crystalline, slightly silty

6784 - 6786 Sandstone, medium-gray, very fine- and fine-grained, dolomitic

6786 - 6787 Dolomite, light- and medium-gray and brown, very finely crystalline, sandy (very fine- and fine-grained sand)

6787 - 6794 Dolomite, very light- and light-gray, very finely crystalline; sandy as above

6794 - 6796 Sand, very fine- to fine-grained. Sandstone, dolomitic; minor. Chert, white; heavy trace

6796 - 6800 Sand as above

6800 - 6803 Sand as above. Dolomite, medium-gray, very finely crystalline, sandy; minor

6803 - 6808 Dolomite as above, very light and light gray

6808 - 6812 No sample

6812 - 6830 Dolomite as above, light and medium brown in part

6830 - 6835 Dolomite, very light-yellowish-gray to brownish-gray, very finely crystalline

6835 - 6838 Dolomite, light- and medium-gray to brownish-gray, very finely crystalline, sandy (very fine-grained sand)

6838 - 6910 Dolomite, very light- and light-brown to grayish-brown, microcrystalline and very finely crystalline

TD samples 6910 feet

Muskingum County
Salt Creek Township
Section 26

Indiana Gas Corp. #1 Whitmire
Permit No. 689
Sample No. 157
Elevation (GL) 806 feet

Depth (ft)

Samples above 6558 feet not examined

6558 - 6591 Dolomite, light-gray and very light-brown, microcrystalline, silty; sandy in part. Shale, dark-green

6591 - 6601 As above. Sandstone, light-gray, very fine-grained, dolomitic; trace

6601 - 6609 As above. Dolomite, very light-brown and brownish-gray to medium-brown, very finely and finely crystalline, sucrosic. KNOX DOLOMITE at 6605 feet

6609 - 6617 Dolomite as above, brown

6617 - 6624 Dolomite as above. Siltstone, light-gray, dolomitic

6624 - 6642 Dolomite as above

6642 - 6646 Dolomite as above. Sandstone, white, very fine- and fine-grained, dolomitic; trace

6646 - 6695 Dolomite as above, mostly very light brownish gray

6695 - 6704 Dolomite, light-brown to very light-brownish-gray, very finely and finely crystalline. Sand, fine-grained, rounded. Sandstone, very light-gray, fine-grained, dolomitic; trace. ROSE RUN sandstone at 6700 feet

6704 - 6720 Dolomite, light-brownish-gray to light-brown, microcrystalline and very finely crystalline. Sand and sandstone as above. Siltstone, light-gray, dolomitic; trace

6720 - 6728 Dolomite as above. Sand as above, trace

6728 - 6740 Sand, very fine- to medium-grained (predominantly medium), subrounded to rounded (predominantly subrounded). Sandstone, very fine- and fine-grained, dolomitic; trace

TD samples 6740 feet

Noble County
Elk Township
Section 31

Amerada Petroleum Corp. #1 Ullman
Permit No. 1278
Sample No. 2025
Elevation (KB) 1035 feet

Depth (ft)

9200 - 9260 Limestone, light-grayish-brown, lithographic. Limestone, very dark-gray to grayish-brown, micrograined, argillaceous, dolomitic. Pyrite, trace from 9250 to 9260 feet

9260 - 9270 Limestone as above. Shale, very dark-brown, dolomitic. Pyrite, trace

9270 - 9330 As above. Dolomite, very light-brownish-gray, microcrystalline; trace

9330 - 9350 Limestone and shale as above. Dolomite as above, heavy trace

9350 - 9370 Dolomite as above, very light-brownish-gray and light-brown. Shale and limestone as above. Sand, medium-grained, subrounded and rounded; trace

9370 - 9380 Dolomite as above. Limestone and shale as above, minor. Sand as above, trace. KNOX DOLOMITE at 9374 feet (GRN)

9380 - 9400 Dolomite as above. Sand as above, trace. Chert, colorless; trace to 9390 feet

9400 - 9440 Dolomite, very light-brown, microcrystalline and very finely crystalline

9440 - 9460 Dolomite as above. Sand, medium- and coarse-grained, rounded; trace. Chert, very light-brownish-gray; trace

9460 - 9490 Dolomite, very light-brownish-gray to light-brown, microcrystalline and very finely crystalline. Chert and sand as above, trace

9490 - 9520 Dolomite as above. Sand, fine- and medium-grained, subrounded and rounded; trace

9520 - 9540 Dolomite as above. Sand as above, heavy trace. Pyrite, trace

9540 - 9560 Dolomite as above. Pyrite, trace. Chert, very light-gray; trace. Sand as above, trace

9560 - 9570 No samples

9570 - 9580 Dolomite as above. Chert, white, very light-gray and colorless; minor to heavy trace

9580 - 9590 Dolomite as above. Chert as above, heavy trace

9590 - 9600 Dolomite, very light-gray and brown, microcrystalline and very finely crystalline. Chert as above, trace

9600 - 9620 As above, dolomite in part siliceous and cherty

9620 - 9720 Dolomite as in sample from 9590 to 9600 feet. Chert, very light-brown; trace. Pyrite, trace to 9630 feet

9720 - 9730 Dolomite, very light- and light-brown, very finely and finely crystalline. Chert, cream-colored, heavy trace. Sand, medium-grained, rounded; trace

9730 - 9740 Dolomite, very light-brown, microcrystalline and very finely crystalline

9740 - 9750 No samples

9750 - 9760 Dolomite, very light-brown and light-grayish-brown, microcrystalline and very finely crystalline. Pyrite, trace

9760 - 9790 No samples

9790 - 9800 Dolomite, very light- and light-brown, microcrystalline, cherty in part. Sand, fine-grained, subangular; heavy trace. Chert, white; trace. Greasy-looking sample (salt water zone?)
9800 - 9810 Dolomite, very light-gray to light-grayish-brown, very finely crystalline; cherty in part
9810 - 9820 Dolomite, very light-brown, microcrystalline and very finely crystalline
9820 - 9830 Dolomite, very light- and light-grayish-brown, microcrystalline and very finely crystalline
9830 - 9840 Dolomite as above, cherty in part. Chert, light-brown; trace. Sand, very fine- and fine-grained, rounded(?); trace
9840 - 9850 Dolomite, very light- to medium-brown and grayish-brown, microcrystalline and very finely crystalline
9850 - 9860 Dolomite, very light-brown, microcrystalline(?), very cherty (white chert)
9860 - 9870 Dolomite, very light-brown to light-grayish-brown, microcrystalline and very finely crystalline
9870 - 9890 Dolomite as above. Chert, white; trace
9890 - 9900 Dolomite, medium-grayish-brown, microcrystalline
9900 - 9940 Dolomite as above, very light and light brown
9940 - 9950 Dolomite, very light-brown, microcrystalline
9950 - 9960 Dolomite, medium-grayish-brown, very finely crystalline. Chert, very light-brown and white; trace
9960 - 9970 Dolomite as above, very light brown. Chert as above, trace
9970 - 10,000 Dolomite as above
10,000 - 10,010 Dolomite as above. Sand, fine- and medium-grained, subrounded and rounded; heavy trace. ROSE RUN sandstone at 9986 (GRN)
10,010 - 10,020 Dolomite as above. Sand as above, minor
10,020 - 10,040 Sand as above, broken in part. Dolomite as above, trace
10,040 - 10,050 Sand as above. Dolomite, light-brown, microcrystalline. Shale, light-green; trace. Greasy-looking sample (salt water zone?)
10,050 - 10,068 No samples
Switch from air to foam at 10,068 feet; samples above 10,068 feet generally less than .3 mm in size; normal size (larger than 3 mm) below 10,068 feet
10,068 - 10,110 Dolomite, medium-gray to brownish-gray, very finely and finely crystalline, medium-grained(?), silty
10,110 - 10,120 Dolomite as above. Sand, fine- and medium-grained, subrounded and rounded
10,120 - 10,130 Dolomite, medium-gray to brownish-gray, microcrystalline, pelletal (medium- and coarse-grained, pellet- and mud-supported), sandy (very fine- and fine-grained sand). Sand as above, trace
10,130 - 10,140 Dolomite, light-gray and brownish-gray, microcrystalline (dolomicrite). Dolomite as above, trace. Sand as above, trace
10,140 - 10,165 Dolomite, light-gray and brownish-gray, microcrystalline (dolomicrite). Dolomite, light-brown, very finely crystalline; dolomite pelletal as in sample from 10,120 to 10,130 feet, trace from 10,150 to 10,165 feet
5-foot sample intervals from 10,160 feet to TD
10,165 - 10,170 Dolomite, medium-brown, microcrystalline, pelletal (fine- and medium-grained)
10,170 - 10,175 Dolomite as above, light brown and gray in part. Dolomite, very light-gray, microcrystalline, sandy to very sandy (fine- and medium-grained sand); grading into sandstone in part
10,175 - 10,180 Dolomite, light-gray, microcrystalline, pelletal and intraclastic
10,180 - 10,185 Dolomite, light-gray to medium-brownish-gray, microcrystalline, sandy (very fine- and fine-grained sand), silty, pelletal
10,185 - 10,195 Dolomite as above, very sandy, in part grading into fine- and medium-grained sandstone
10,195 - 10,200 Dolomite as above, silty, nonsandy
10,200 - 10,205 Dolomite as above
10,205 - 10,210 Dolomite as above, sandy in part. Dolomite, dark-brown, microcrystalline (dolomicrite)
10,210 - 10,235 Dolomite, very light-brownish-gray and dark-brown, microcrystalline (dolomicrite), pelletal
10,235 - 10,245 Dolomite as above, mostly dark-brown dolomicrite
10,245 - 10,250 Dolomite, medium-grayish-brown to dark-brown, microcrystalline (dolomicrite), pelletal
10,250 - 10,255 Dolomite as above. Dolomite, medium- and dark-brown and grayish-brown, very finely crystalline
10,255 - 10,260 Dolomite, dark-brown, microcrystalline, pelletal (very fine- and fine-grained). Dolomite, very light- and dark-brownish-gray, very finely crystalline
10,260 - 10,295 Dolomite as above
10,295 - 10,305 Dolomite as above, dark-gray shale partings
10,305 - 10,315 Dolomite as above, microcrystalline in part. Dolomite, pelletal; trace
10,315 - 10,325 Dolomite, dark-brownish-gray, microcrystalline and very finely crystalline, pelletal (pellet-supported in large part)
10,325 - 10,330 Dolomite as above, nonpelletal
10,330 - 10,335 Dolomite as above, in part laminated with microcrystalline (dolomicrite) dark-brown dolomite
10,335 - 10,350 Dolomite as in sample from 10,325 to 10,330 feet
10,350 - 10,355 Dolomite as above. Dolomite, very light-brownish-gray, very finely crystalline; few dark-brown pellets (fine- and medium-grained)
10,355 - 10,360 Dolomite, dark-brownish-gray, very finely crystalline. Dolomite, light-brown to grayish-brown, microcrystalline (dolomicrite); in part laminated with very finely crystalline dolomite
10,360 - 10,365 Dolomite as above. Dolomite, very light-gray to brownish-gray, microcrystalline (dolomicrite) and very finely crystalline
10,365 - 10,370 Dolomite as above, mostly very light gray and brownish gray
10,370 - 10,380 Dolomite as above, very light gray and brownish gray, finely crystalline in part
10,380 - 10,390 As above, very finely and finely crystalline, white in part
10,390 - 10,395 Dolomite as above. Dolomite, medium- and dark-brownish-gray, microcrystalline (dolomicrite) and very finely crystalline
10,395 - 10,400 Dolomite, very light- to dark-brownish-gray, very finely crystalline
10,400 - 10,415 Dolomite as in sample from 10,370 to 10,380 feet
10,415 - 10,425 Dolomite, light- and medium-grayish-brown, microcrystalline (dolomicrite). Dolomite, very light-gray and brownish-gray, very finely crystalline
10,415 - 10,460 Dolomite, very light-gray and brownish-gray, very finely and finely crystalline; some intercrystalline porosity from 10,450 feet down
10,460 - 10,465 Dolomite as above. Dolomite, medium- and

dark-brownish-gray, very finely crystalline. Chert, brown and white, oolitic and pelletal (dark-brown, medium- and coarse-grained, coated in part); trace

10,465 - 10,470 Dolomite as above. Dolomite, dark-brownish-gray; in part pelletal (pellet-supported, fine-grained); probable oolite ghosts (fine-grained). Chert as above, trace

10,470 - 10,475 Dolomite as above, dark brownish gray, very finely and finely crystalline, some oolites (fine-grained)

10,475 - 10,480 Dolomite, medium- and dark-grayish-brown, very finely and finely crystalline; some pinpoint porosity

10,480 - 10,485 Dolomite as above. Dolomite, light- and medium-brownish-gray, microcrystalline (dolomicrite); some pellets and oolites (very fine- to medium-grained)

10,485 - 10,490 Dolomite, very light-brownish-gray, very finely and finely crystalline. Dolomite, medium-grayish-brown, finely and medium-crystalline; good pinpoint porosity

10,490 - 10,495 Dolomite as above, no porosity. Dolomite, light-brown and grayish-brown, microcrystalline (dolomicrite); some fine- and medium-grained pellets

10,495 - 10,505 Dolomite as above. Chert, light-brown, oolitic and pelletal; trace

10,505 - 10,510 Dolomite, light- to dark-grayish-brown, very finely and finely crystalline; some oolites and pellets (fine- and medium-grained, coated in part)

10,510 - 10,520 Dolomite, very light-gray to brownish-gray, very finely crystalline. Dolomite as above, minor

10,520 - 10,535 Dolomite as in sample from 10,505 to 10,510 feet. Dolomite as above, very light gray to brownish gray, subequal to minor

10,535 - 10,545 Dolomite, very light-brownish-gray, very finely crystalline, sandy (very fine-grained sand). Dolomite, light- to dark-grayish-brown, very finely crystalline, oolitic and pelletal (fine- to coarse-grained, scattered in part, in part pellet-supported); minor

10,545 - 10,550 Dolomite as above. Sandstone, very light-gray, very fine-grained, dolomitic; trace

10,550 - 10,563 Dolomite as above, very silty. Sandstone as above, trace

10,563 - 10,567 Dolomite, very light- and light-gray to brownish-gray, microcrystalline (dolomicrite?), sandy to very sandy (fine- to coarse-grained); oolitic (medium- and coarse-grained, some sand-grain centered) in part; in part grading into sandstone. CONASAUGA FORMATION at 10,563 feet

10,567 - 10,570 Sandstone, very light-gray, predominantly medium-grained, dolomitic. Dolomite as above, minor

10,570 - 10,575 Dolomite, light-gray to dark-grayish-brown, microcrystalline (dolomicrite), silty; oolitic and pelletal (fine-grained, grain-supported in part) in part. Sandstone as above, minor. Shale, dark-brown; trace

10,575 - 10,580 Sandstone, very light-gray to dark-grayish-brown, fine- and medium-grained, dolomitic; silty in part. Dolomite, dark-grayish-brown, microcrystalline (dolomicrite); very silty in part; some pellets (fine- and medium-grained). Shale, dark-brown, silty; trace

10,580 - 10,585 As above, dolomite oolitic (medium- and coarse-grained, oolite-supported)

10,585 - 10,590 Dolomite, very light-brownish-gray to dark-grayish-brown, microcrystalline (dolomicrite and dolosiltite), silty; sandy in part; oolitic and pelletal in part (grain-supported)

10,590 - 10,595 Dolomite as above. Sandstone, very light-brownish-gray, fine- to coarse-grained, predominantly medium-grained; heavy trace

10,595 - 10,600 Sandstone, white to very light-brownish-gray, fine- to coarse-grained, siliceous. Dolomite as above, minor

10,600 - 10,605 Dolomite, dark-brown to grayish-brown, microcrystalline (dolomicrite), very silty. Sandstone as above, trace. Dolomite, oolitic and pelletal as above, trace

10,605 - 10,610 Sandstone as above. Dolomite, very silty as above. Dolomite, oolitic and pelletal as above, trace

10,610 - 10,615 Dolomite, medium-brownish-gray, microcrystalline (dolomicrite), silty. Dolomite, very light-brownish-gray to dark-grayish-brown, microcrystalline, silty, sandy, oolitic and pelletal (medium- and coarse-grained, grain-supported). Sandstone as above, heavy trace. ROME FORMATION at 10,610 feet

10,615 - 10,625 As above, dolomicrite pelletal (very fine-grained) in part

10,625 - 10,635 Dolomite, light-yellowish-gray to medium-brownish-gray and gray, microcrystalline (dolomicrite), slightly to very sandy (very fine- to medium-grained sand)

10,635 - 10,640 Dolomite as above. Dolomite, dark-grayish-brown, microcrystalline (dolosiltite); heavy trace. Sandstone, light-grayish-brown, very fine- to medium-grained; heavy trace

10,640 - 10,650 Dolomite, light-yellowish-gray to light-brownish-gray, microcrystalline (dolomicrite), sandy; grading into very fine- to medium-grained sandstone

10,650 - 10,670 Sandstone (predominantly) and dolomite as above, colors darkening to include medium brownish gray and brown

10,670 - 10,675 As above, sandstone subequal, dolomite and sandstone in part laminated with dark-brownish-gray shale

10,675 - 10,680 Dolomite, very light- and light-gray, microcrystalline (dolomicrite). Dolomite, light-brown to grayish-brown and white, very finely and finely crystalline

10,680 - 10,705 Dolomite as above, slightly sandy (fine- and medium-grained sand)

10,705 - 10,720 Dolomite, very light- and light-gray to brownish-gray, microcrystalline (dolomicrite), and very finely crystalline, sandy (very fine- and fine-grained sand). Dolomite, medium- to dark-grayish-brown, very finely crystalline, sandy to very sandy (fine-grained sand)

10,720 - 10,730 Dolomite as above, dolomicrite in part pelletal and predominantly light grayish brown

10,730 - 10,740 Dolomite, very light- to dark-grayish-brown, microcrystalline (dolomicrite); to finely crystalline; sandy in part (fine- and medium-grained sand)

10,740 - 10,750 Dolomite as above, in part oolitic and/or pelletal (grain- and mud- or crystal-supported, coated)

10,750 - 10,815 Dolomite as above. Limestone, light-grayish-brown, fossiliferous (1 piece, in place?)

10,815 - 10,820 Dolomite, medium- to dark-grayish-brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline; some oolites and pellets (fine-grained)

10,820 - 10,825 Dolomite as above. Dolomite, very light-gray to light-brownish-gray, microcrystalline (dolomicrite); sandy in part (fine-grained sand); minor

10,825 - 10,835 Dolomite, sandy as above. Dolomite as in sample from 10,815 to 10,820 feet, minor

10,835 - 10,845 Dolomite, light- to dark-grayish-brown, microcrystalline (dolomicrite); some oolites and pellets (very fine- to medium-grained, mostly mud-supported)
10,845 - 10,850 Dolomite, very light-grayish-brown, microcrystalline (dolomicrite)
10,850 - 10,855 Dolomite as above. Dolomite, clear matrix with fine-grained dark-brown pellets, trace
10,855 - 10,860 Dolomite as above. Dolomite, medium- and dark-grayish-brown, microcrystalline (dolomicrite); some pellets; minor
10,860 - 10,880 Dolomite as above, sandy in part (fine- and medium-grained sand)
10,880 - 10,900 Dolomite, very light- and light-grayish-brown and light-yellowish-gray, microcrystalline (dolomicrite)
10,900 - 10,930 Dolomite as above, very finely crystalline in part
10,930 - 10,935 Dolomite as above. Dolomite, very dark-grayish-brown, microcrystalline, argillaceous. Shale, very dark-grayish-brown; minor
10,935 - 10,940 Dolomite as above
10,940 - 10,945 Dolomite, light-yellowish-gray to light-brownish-gray, microcrystalline (dolomicrite); sandy in part (fine- and medium-grained sand)
10,945 - 10,960 Dolomite as above, very finely and finely crystalline in part
10,960 - 10,965 Dolomite as above. Dolomite, dark-grayish-brown, microcrystalline (dolosiltite); minor. Limestone, dark-grayish-brown, fossiliferous; trace (1 piece)
10,965 - 11,000 Dolomite as in sample from 10,940 to 10,945 feet, some pellets (fine- and medium-grained) from 10,970 to 10,995 feet, slightly sandy to very sandy (fine- to coarse-grained sand)
11,000 - 11,005 Dolomite, medium-gray, microcrystalline and very finely crystalline, pelletal(?), sandy (fine- and medium-grained sand). Dolomite, light- and medium-grayish-brown, microcrystalline, oolitic (fine- to coarse-grained, many sand-grain-centered, oolite-supported)
11,005 - 11,010 Dolomite, very light-brownish-gray to medium-grayish-brown, microcrystalline, oolitic (sand-grain-centered), pelletal, sandy (fine- to coarse-grained sand). Shale, very dark-gray; trace
11,010 - 11,035 Dolomite, light- and medium-gray to brownish-gray, microcrystalline (dolomicrite), sandy (fine- to coarse-grained). Dolomite as above, minor. Shale as above, trace
11,035 - 11,045 As above, dolomicrite in part pelletal (fine-grained)
11,045 - 11,050 Dolomite, light- and medium-gray and brownish-gray, microcrystalline (dolomicrite and dolosiltite). Dolomite, dark-grayish-brown, microcrystalline, silty, pelletal (pellet-supported; pellets coated and may be oolites); heavy trace
11,050 - 11,055 Dolomite as above, dolomicrite and dolosiltite, sandy (fine- and medium-grained sand), oolitic and pelletal (both fine- and medium-grained, grain- and mud/silt-supported)
11,055 - 11,060 Dolomite, very light-brownish-gray to dark-grayish-brown, microcrystalline (dolomicrite and dolosiltite), sandy (fine-grained), oolitic and pelletal (in part grain-supported)
11,060 - 11,065 Dolomite as above. Dolomite, dark-grayish-brown as in sample from 11,045 to 11,050 feet
11,065 - 11,070 Badly contaminated sample
11,070 - 11,105 Dolomite as in sample from 11,060 to 11,065 feet, sand in dolomite fine to coarse grained
11,105 - 11,110 Dolomite as above. Sandstone, clear, fine- to coarse-grained, siliceous; trace
11,110 - 11,130 Dolomite, very light-brownish-gray to very dark-grayish-brown, microcrystalline (dolosiltite), oolitic and pelletal (both fine- to coarse-grained, grain-supported, most oolites sand-grain centered) silty and sandy (fine- to coarse-grained sand)
11,130 - 11,150 Dolomite as above. Sandstone, fine- and medium-grained, siliceous; heavy trace
11,150 - 11,155 Dolomite, medium- and dark-grayish-brown, microcrystalline (dolosiltite), silty; few pelletal pieces
11,155 - 11,175 Dolomite as in sample from 11,110 to 11,130 feet, very sandy
11,175 - 11,200 Dolomite as above. Sandstone, colorless, fine- and medium-grained, siliceous; trace
11,200 - 11,205 Dolomite, light- to dark-grayish-brown, microcrystalline (dolomicrite and dolosiltite), silty, sandy (fine- to coarse-grained); some oolites and pellets. Sandstone, colorless to white, fine- to coarse-grained, siliceous; heavy trace to trace
11,205 - 11,215 Dolomite as above. Sandstone as above, 30%
11,215 - 11,225 As in sample from 11,200 to 11,205 feet
11,225 - 11,230 Badly contaminated sample
11,230 - 11,235 As in sample from 11,200 to 11,205 feet, much of dolomite oolitic and pelletal (fine- and medium-grained, grain-supported)
11,235 - 11,275 Sandstone, white to light-yellowish-gray, fine- to coarse-grained (predominantly medium), siliceous and dolomitic. Dolomite as above, minor. MT. SIMON SANDSTONE at 11,235 feet
11,275 - 11,290 Sandstone as above, siliceous. Dolomite as above, trace
11,290 - 11,300 Siltstone, pink, siliceous, sandy (very fine- to fine-grained sand). Sandstone as above, trace. Dolomite as above, trace
11,300 - 11,305 Dolomite, very dark-grayish-brown, microcrystalline (dolosiltite), silty
11,305 - 11,320 Dolomite as above, sandy. Sandstone, very light-brownish-gray, fine- to coarse-grained, dolomitic; minor to 11,310 feet
11,320 - 11,340 Dolomite as above. Sandstone, light- to medium-gray, medium-grained, dolomitic; becoming in part very light gray and siliceous at 11,330 feet
11,340 - 11,350 Sandstone, very light- to dark-gray, very fine- to medium-grained, dolomitic
11,350 - 11,365 Sandstone, white, fine- to coarse-grained (predominantly medium), siliceous. Sandstone as above, minor
11,365 - 11,390 Sandstone as in sample from 11,340 to 11,350 feet, predominantly very fine to fine grained, very dolomitic. Shale, dark-gray; heavy trace (in place?)
11,390 - 11,400 Sandstone, white, fine- to coarse-grained, poorly sorted. Sandstone as above, trace. Shale as above, trace
11,400 - 11,405 Siltstone, pink, siliceous; sandy in part. Sandstone as above, fine to coarse grained, light gray in part
11,405 - 11,410 Sandstone, pinkish-yellow, fine- to coarse-grained, siliceous
11,410 - 11,415 Sandstone as above, pink. PRECAMBRIAN at 11,410 feet (GRN)
11,415 - 11,420 Sandstone as above. Arkose(?): orthoclase with red shale and green clay. Gneiss or schist (quartz, hornblende, andesine, oligoclase, biotite), trace
11,420 - 11,442 Gneiss or schist as above

TD samples 11,442 feet

Ottawa County
Carroll Township
Section 9

Wenner Petroleum Corp.
#1 Moore
Permit No. 44
Sample No. 2089
Elevation (DF) 576 feet

Depth (ft)	
2201 - 2211	Limestone, medium-brown, lithographic, fossiliferous (brachiopods); 90%. Shale, medium-gray to greenish-gray, dolomitic, silty; 10%
2211 - 2218	Limestone, light-brown, lithographic. Shale as above, trace
2218 - 2244	Limestone as above, medium brown, some embedded dolomite crystals
2244 - 2254	Limestone, light- and medium-brown, lithographic to finely crystalline, granular-looking; dolomitic in part; grading into dolomite
2254 - 2264	Limestone as above, light grayish brown in part, argillaceous in part, 50%. Shale, medium-green to greenish-gray, fossiliferous (brachiopods); 50%
2264 - 2274	Sandstone, very light-gray, very fine- and fine-grained (some medium- and coarse-grained sand), pyritic, very slightly glauconitic; 80%. Shale, light-green, dark-brown (green shale pyritic, slightly glauconitic, sandy, grading into fine-grained sandstone); 20%
2274 - 2283	Sandstone, coarse-grained, well-sorted, very friable; rounded and frosted grains. KERBEL FORMATION at 2274 feet
	TD samples 2283 feet

Perry County
Bearfield Township
Section 23

Metzger #3 Sims
Permit No. 1132
Sample No. 288
Elevation (G) 885 feet

Depth (ft)	
	Samples above 5866 feet not examined
5866 - 5875	Limestone, light- and medium-brown, lithographic; bird's-eye structures. Shale, light- to dark-green, dolomitic, silty; heavy trace
5875 - 5884	Limestone as above, light to dark-brown, 80%. Dolomite, light- and medium-brown, microcrystalline, silty; 15%. Shale as above, 5%
5884 - 5893	Dolomite as above, 70%. Limestone as above, 20%. Shale as above, 10%
5893 - 5901	Dolomite, light-gray, light-brown, microcrystalline; slightly silty and argillaceous in part; 95%. Shale as above, 5%
5901 - 5905	Dolomite, light- and medium-brown, microcrystalline. Shale as above, trace
5905 - 5913	Dolomite, very light- and light-gray, very light- and light-brown, light-greenish-gray, microcrystalline; silty and sandy in part (very fine-grained sand); 95%. Shale as above, 5%. Limestone, light-brown, lithographic; trace
5913 - 5922	Sandstone, very light-brown, very light- and light-gray, very fine- and fine-grained, dolomitic; some medium- and coarse-grained sand; grading in small part into dolomite; 90%. Shale, medium- and dark-green; 10%. Dolomite as above, heavy trace
5922 - 5930	Sandstone as above, poorly sorted, fine- to coarse-grained sand rounded and frosted, 95%. Shale as above, 5%. Dolomite, light-brown, microcrystalline; trace
5930 - 5942	Sandstone as above, very fine to medium grained (predominantly very fine), 30%. Dolomite, very light-gray and brown, microcrystalline and very finely crystalline; probably vuggy in part; 70%. Shale as above, trace. Sparry dolomite, trace. KNOX DOLOMITE at 5938 feet
5942 - 5946	Dolomite as above, 70%. Sandstone as above, 30%. Shale, light-grayish-green and medium-green; trace
5946 - 5956	Dolomite, very light-brown, microcrystalline and very finely crystalline, slightly sandy (very fine-grained sand). Sparry dolomite, trace. Shale, light-green; trace
5956 - 5964	Dolomite, very light-gray to yellowish-brown, microcrystalline and very finely crystalline. Chert, white; trace
5964 - 5994	Dolomite, very light- and light-brown, microcrystalline and very finely crystalline. Chert, white; trace to 5974 feet. Pyrite, trace
5994 - 6006	Dolomite as above. Dolomite, light-brownish-gray, light-grayish-brown, microcrystalline, sandy (very fine- to medium-grained sand); 90%. Sandstone, white and very light-brown, fine- to coarse-grained (predominantly medium), moderately sorted; in part siliceous; in part dolomitic; 10%. ROSE RUN sandy zone
6006 - 6019	Sandstone as above, very friable, 95%. Dolomite, very light-gray, microcrystalline, sandy, 5%. Shale cavings
6019 - 6022	Sandstone as above, predominantly fine grained, 50%. Dolomite, very light-brown, very light- and light-gray, microcrystalline, silry; 50%
6022 - 6032	Dolomite, very light- and light-brown, microcrystalline; grayish in part. Dolomite, medium-brownish-gray, microcrystalline, argillaceous. Sandstone as above, heavy trace to trace
6032 - 6040	Sandstone, fine- and medium-grained, very friable; some coarse-grained sand. Dolomite, very light-brown, microcrystalline; trace
6040 - 6044	Sandstone, fine- and medium-grained, siliceous; some coarse-grained sand
6044 - 6048	Dolomite, medium-brown to grayish-brown, microcrystalline, sandy to very sandy (fine- to coarse-grained sand)
6048 - 6056	Dolomite as above, grading into predominantly fine-grained sandstone
6056 - 6059	Sandstone, fine- and medium-grained, very friable. Dolomite as above, trace. Rusty sample
6059 - 6061	Sandstone as above, coarse grained in part, siliceous in part, rusty
6061 - 6064	Sandstone, very light-gray, fine- to coarse-grained, dolomitic; grading into dolomite; 70%. Shale, medium- to dark-green; 30%
6064 - 6067	Sandstone, predominantly fine- and medium-grained; dolomitic in part. Shale as above, trace
6067 - 6070	Dolomite, very light-brownish-gray and gray, microcrystalline; silty and sandy in part (very fine-grained sand); glauconitic in part
6070 - 6080	Dolomite as above, sandy (very fine- and fine-grained sand). Shale, light-green; trace. Shale cavings
6080 - 6082	Sandstone, very light-gray, very fine- to coarse-grained, slightly glauconitic; dolomitic in part
6082 - 6090	Sandstone, fine- and medium-grained (predominantly fine), very friable
	TD samples 6090 feet

Pickaway County
Jackson Township
VMSL 7947

McMahon-Bullington Drilling Co. #1 Croman
Permit No. 4
Sample No. 1393
Elevation (KB) 797 feet

Depth (ft)	
2200 - 2205	Limestone, very light- and light-brown, lithographic; fine and medium grained in part (dolomicrite)
2205 - 2250	Limestone as above. Shale, light-gray to greenish-gray, heavy trace to trace. Cavings, Cin-

cinnatian shale

2250 - 2255 Limestone as above, in part containing fine dolomite crystals. Shale as above, heavy trace to trace

2255 - 2260 Limestone, very light- and light-brown, lithographic (dolomicrite); in part finely crystalline with dolomite crystals

2260 - 2265 Limestone as above. Dolomite, very light-gray and brown, finely crystalline. Sandstone, clear, fine- and medium-grained, silica-cemented

2265 - 2275 Limestone as above. Dolomite, very light-brown, microcrystalline and very finely crystalline; pyritic in part. Chert, white; minor. Sand, medium-grained, rounded, frosted; heavy trace

2275 - 2280 Sand, fine- to coarse-grained (predominantly medium), rounded and frosted. Sandstone, fine- to coarse-grained, friable, pyritic

2280 - 2285 Sand and sandstone as above. Shale, limestone, and dolomite cavings

2285 - 2290 Dolomite, very light-brown, finely crystalline, sandy (rounded and frosted fine- and medium-grained sand). Sand and sandstone as above, heavy trace. Shale and limestone cavings. KNOX DOLOMITE at 2279 feet (GRN)

2290 - 2310 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline, sandy (sand as above); in part very fine-grained (rounded intraclasts); cherty in part. Chert, light-yellowish-gray; one piece of chert oolite. Siltstone, very light-greenish-gray, dolomitic, heavy trace. Sand as above, trace. Shale and limestone cavings

2310 - 2320 Dolomite, light- and medium-brown, very finely crystalline, pyritic; very fine (almost silt) to medium grained in part; patches of green clay. Cavings as above

2320 - 2325 As above, dolomite in part vuggy. Dolomite, very light-gray, very sandy (fine- and medium-grained sand). Sandstone, very light-gray, very fine-grained; trace

2325 - 2330 Dolomite, very light-brown and light-yellowish-gray, microcrystalline (dolomicrite) and very finely crystalline; probably fossiliferous, suggested by vestigial outlines of fossil fragments. Limestone and shale cavings

2330 - 2340 As above(?); mostly cavings

2340 - 2350 Dolomite, very light-brownish-gray to light-brown, sandy to very sandy (fine- and medium-grained sand), very finely crystalline, pyritic; green clay (glauconite?). Cavings

2350 - 2355 Dolomite as above. Dolomite, very light-brownish-gray to light-brown, slightly sandy, finely crystalline. Cavings

2355 - 2375 As above, slightly sandy (very fine-grained sand)

2375 - 2400 Dolomite, very light- and light-gray and brown, microcrystalline and very finely crystalline; in part containing patches of green clay (glauconite?) from 2380 to 2385 feet. Cavings

2400 - 2405 Dolomite, very light- to medium-gray, slightly sandy (fine-grained sand), finely and medium-crystalline, slightly glauconitic, slightly silty

2405 - 2410 Dolomite, very light- and light-brown and gray, very finely and finely crystalline, slightly glauconitic. Cavings

2410 - 2415 As above. Dolomite as in sample from 2400 to 2405 feet, heavy trace

2415 - 2465 Cavings, shale and limestone; too little dolomite in place to log

2465 - 2470 As above, sample containing a few pieces of medium-grained medium-brown oolitic dolomite

2470 - 2480 Dolomite, very light-brown, fine-grained (rounded intraclasts), microcrystalline and very finely crystalline, pyritic; siliceous in part; glauconitic in part; sandy in part; oolitic in part. Chert, white, oolitic, pelletal; nuclei of both rounded sand (medium-grained) and chert (dolomite replacement); heavy trace. Cavings

2480 - 2490 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline (rounded intraclasts), slightly oolitic, glauconitic; fine and medium grained in part. Cavings

2490 - 2500 Dolomite as above, nonglauconitic

2500 - 2535 Dolomite, very light-yellowish-brown to light-yellowish-gray, very fine- to medium-grained, microcrystalline (dolomicrite). Cavings

2535 - 2540 Dolomite as above. Dolomite, very light-gray, finely crystalline, oolitic(?); minor. Cavings

2540 - 2565 As in sample from 2500 to 2535 feet, mostly dolomicrite

2565 - 2575 Dolomite, light-brown, very finely and finely crystalline; some intercrystalline porosity

2575 - 2595 Dolomite, light-brown, very finely crystalline; pellets, rounded intraclasts, and few oolites. Dolomite, very light-yellowish-brown to yellowish-gray, microcrystalline (dolomicrite). Chert, very light-gray; trace from 2590 to 2595 feet

2595 - 2605 Dolomite, white, microcrystalline (dolomicrite). Dolomite as above, minor to trace

2605 - 2610 Dolomite as above, white

2610 - 2615 Dolomite as above. Dolomite, light-brown, microcrystalline and very finely crystalline; pelletal and oolitic in part; minor

2615 - 2620 No samples

2620 - 2625 Dolomite, pelletal as above

2625 - 2635 Dolomite as above, poor samples because of cavings; much white dolomite (in place?) as in sample from 2595 to 2605 feet

2635 - 2655 Dolomite, very light-yellowish-brown to light-brown, microcrystalline and very finely crystalline. Dolomite, very light- and light-gray, microcrystalline, glauconitic, silty; trace

2655 - 2660 Dolomite, white, microcrystalline (dolomicrite). Siltstone, light-gray, slightly glauconitic; trace. Chert, white; one piece

2660 - 2675 Dolomite as above. Dolomite, light-brown, very finely crystalline (dolosiltite)

2675 - 2680 Dolomite as above. Chert, white; trace

2680 - 2690 Misplaced sample (Mt. Simon Sandstone and Precambrian?)

2690 - 2695 Dolomite as in sample from 2660 to 2675 feet. Siltstone, trace

2695 - 2705 Siltstone, light-gray, dolomitic, slightly glauconitic and pyritic. Dolomite, light-brown, finely crystalline (dolosiltite), slightly glauconitic, slightly silty; heavy trace to trace

2705 - 2710 Siltstone as above. Dolomite, very light-brownish-gray, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline

2710 - 2715 Dolomite, very light-brownish-gray and light-brown, microcrystalline and very finely crystalline

2715 - 2730 Dolomite, light-brown, very finely to medium-crystalline

2730 - 2740 Dolomite, white to very light-gray and brown, medium-crystalline

2740 - 2760 Dolomite, very light- and light-brown and light- and medium-grayish-brown, microcrystalline; siliceous and cherty in part. Pyrite and pyrite crystals, trace from 2745 to 2750, 2755 to 2760 feet

2760 - 2775 Dolomite, light-brown to very light-yellowish-brown. Pyrite and pyrite crystals, trace

2775 - 2780 Dolomite, very light-yellowish-brown to light-

	yellowish-gray, microcrystalline and medium-crystalline
2780 - 2790	Dolomite as in sample from 2760 to 2775 feet. Pyrite, heavy trace
2790 - 2795	Dolomite, very light- and light-brown, microcrystalline and very finely crystalline
2795 - 2805	Dolomite as above. Dolomite, very light- and light-gray, finely to coarsely crystalline; containing light-green shale
2805 - 2835	Dolomite, very light-gray, finely to coarsely crystalline (no grains visible)
2835 - 2860	Dolomite, very light-brown and yellowish-brown, very finely and finely crystalline. Pyrite, trace from 2855 to 2860 feet
2860 - 2890	Dolomite, light-brown to very light-yellowish-brown, finely crystalline; slightly pyritic in part to 2870 feet; very slightly glauconitic in part
2890 - 2895	Dolomite, very light- to medium-brown, finely crystalline
2895 - 2900	Dolomite, light-brown, finely crystalline
2900 - 2905	Dolomite, light-brown to very light-yellowish-brown and very light-brownish-gray, finely and medium-crystalline; one chip showing medium-crystalline dolomite with cavity filled with sparry dolomite (spar containing few medium-sized dolomite crystals)
2905 - 2910	Dolomite, very light-yellowish-brown to light-yellowish-gray, very finely and finely crystalline. Sandstone, light-gray, very fine-grained, slightly dolomitic, very slightly glauconitic; trace
2910 - 2915	Dolomite as above
2915 - 2920	Dolomite as above. Dolomite, very light- and light-brown, microcrystalline (dolomicrite)
2920 - 2925	Dolomite as in sample from 2890 to 2895 feet
2925 - 2930	Dolomite as above. Dolomite, very light-gray, very finely and finely crystalline. Calcite crystals, trace
2930 - 2935	Dolomite as above, very light gray. Dolomite, very light- and light-brown, very finely and finely crystalline
2935 - 2945	Dolomite, very light- and light-brown, very finely and finely crystalline
2945 - 2950	Dolomite, white and very light-gray, microcrystalline and very finely crystalline
2950 - 2960	Dolomite as above, very slightly sandy in part. Sandstone, white, fine-grained, glauconitic; trace. Pyrite, trace from 2955 to 2960 feet
2960 - 2975	Dolomite as above, very slightly glauconitic in part, very minor pinpoint porosity
2975 - 2990	Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolomicrite) and very finely crystalline; some pinpoint porosity. Sandstone, light-gray, fine-grained, glauconitic, very dolomitic; trace
2990 - 2995	Dolomite as above, slightly pelletal in part
2995 - 3000	Dolomite, light-yellowish-gray and very light- and light-brown, microcrystalline (dolomicrite) and very finely crystalline; slightly pelletal(?) in part; sandy in part (very fine-grained sand); fair pinpoint porosity
3000 - 3005	Dolomite as above. Sandstone, light-gray, very fine-grained, slightly glauconitic; trace
3005 - 3015	Dolomite as above, very sandy in part. Sandstone, light-gray, very fine-grained, dolomitic; in small part poorly sorted (very fine- to medium-grained); minor. KERBEL FORMATION at 3005 feet
3015 - 3020	Dolomite, light-yellowish-gray, microcrystalline, sandy to very sandy. Sandstone, light-yellowish-gray to light-gray, predominantly very fine-grained; dolomitic; in part very fine to medium grained
3020 - 3025	Dolomite, light-yellowish-gray and very light-brown, microcrystalline, sandy (very fine- to medium-grained sand), pelletal (fine- and medium-grained); few oolites. Sandstone, light-gray, fine- and medium-grained, dolomitic; minor
3025 - 3040	Dolomite as above, very light and light brown
3040 - 3045	Dolomite as above, very sandy, grading into sandstone. Sandstone, predominantly very fine-grained; light yellowish gray in part
3045 - 3055	Sandstone, light-yellowish-gray, predominantly very fine-grained; in part fine grained
3055 - 3060	Sandstone as above. Dolomite, light-brown, sandy (very fine-grained sand), microcrystalline; trace
3060 - 3065	Dolomite, light- to medium-brown and light-grayish-brown, sandy to very sandy (very fine- and fine-grained sand), finely crystalline
3065 - 3070	Dolomite as above. Siltstone, medium- and dark-brown, dolomitic. Shale and limestone, fossiliferous; cavings
3070 - 3075	Sandstone, light-yellowish-gray and very light-brown, very fine- and fine-grained
3075 - 3080	Sandstone as above, light brownish gray and slightly argillaceous in part
3080 - 3090	Sandstone as above. Dolomite as in sample from 3055 to 3060 feet, trace
3090 - 3105	Sandstone, light-brown to very light-grayish-brown, very fine- and fine-grained, dolomitic, slightly glauconitic, slightly micaceous. Shale, dark-grayish-brown, silty; minor. Dolomite as above, trace. CONASAUGA FORMATION at 3090 feet
3105 - 3115	Sandstone and shale as above, shale predominant, medium and dark grayish green in part
3115 - 3125	Sandstone, very light- to medium-brown, fine-grained, glauconitic; very dolomitic in part. Shale, dark-grayish-brown, dark-gray, dark-reddish-brown. Dolomite, light-brown to very light-gray, bioclastic, sandy; heavy trace to trace
3125 - 3140	Shale as above, predominantly dark reddish brown. Sandstone as above, trace. Bioclastic dolomite as above, trace
3140 - 3165	Shale, dark-gray to greenish-gray, silty, micaceous. Sandstone, light-brown and brownish-gray, very fine- and fine-grained, silty, dolomitic, glauconitic
3165 - 3170	Shale and sandstone as above. Dolomite, very light-gray, microcrystalline (dolomicrite); trace
3170 - 3180	Shale and sandstone as above. Dolomite as above from 3175 to 3180 feet, trace
3180 - 3185	Shale, dark-greenish-gray and brownish-gray. Sandstone as above, trace. Dolomite, very light-brown, finely and medium-crystalline; trace
3185 - 3195	Sandstone, light-gray, light-brown, very fine- and fine-grained, glauconitic to very glauconitic, micaceous. Siltstone, medium-brown, dolomitic, glauconitic to very glauconitic. Shale as above, minor
3195 - 3200	As above, siltstone in part reddish brown
3200 - 3205	Siltstone and sandstone as above. Shale as above, trace
3205 - 3225	Sandstone, very light-brown to yellowish-brown, very fine- and fine-grained, dolomitic, micaceous, slightly glauconitic
3225 - 3240	Sandstone as above, very slightly glauconitic in part, pinkish yellow in part
3240 - 3245	Sandstone as above. Shale, medium-gray to greenish-gray, silty; in part as laminations in sandstone
3245 - 3265	Dolomite, very light-yellowish-brown, microcrystalline, pelletal (very fine-grained), very

sandy (very fine-grained sand). Sandstone as above, trace. ROME FORMATION at 3248 feet

3265 - 3275 As above, some medium-grained sand in dolomite

3275 - 3300 Dolomite, very light-gray and light-yellowish-gray, sandy to very sandy (very fine- to medium-grained sand), microcrystalline; pelletal (very fine- and fine-grained) in small part

3300 - 3310 Dolomite, very light-gray and light-yellowish-gray, sandy to very sandy (very fine- to coarse-grained sand), microcrystalline

3310 - 3355 Dolomite as above, grading into sandstone. Sandstone, predominantly fine- and medium-grained, dolomitic to very dolomitic. Dolomite as above, heavy trace

3355 - 3370 Dolomite as above, some fine- and medium-grained pellets. Sandstone as above, minor

3370 - 3380 Sandstone, light-yellowish-gray and light-brown, predominantly fine-grained; some medium and coarse grains; very dolomitic in part. Dolomite, very light-brown, microcrystalline; trace

3380 - 3395 Dolomite, very light-gray to light-brownish-gray and light-brown, microcrystalline; sandy to very sandy (very fine- to coarse-grained sand) in large part; some pellets in sand

3395 - 3420 Dolomite as above, light gray and very light and light brown, slightly sandy (very fine- to medium-grained sand), pelletal in part

3420 - 3440 Dolomite as above. Dolomite, medium-brown, slightly sandy to sandy (very fine- and fine-grained sand), microcrystalline to very finely crystalline

3440 - 3445 Dolomite as above, sandy to very sandy (very fine- and fine-grained sand). Sandstone, light-pinkish-brown, fine-grained; heavy trace

3445 - 3460 Sandstone, very light-brownish-gray and light-yellowish-gray and light-pinkish-yellow, fine- and medium-grained. Dolomite as above, minor

3460 - 3465 Dolomite, light- and medium-brown, sandy, microcrystalline, pelletal. Dolomite, very light- and light-gray, microcrystalline. Sandstone as above, trace

3465 - 3470 As above, dolomite in part oolitic (dark-brown oolites)

3470 - 3480 Dolomite, light- to dark-brown, sandy (very fine- and fine-grained sand), microcrystalline, pelletal, very slightly oolitic. Sandstone, pinkish-yellow, fine-grained; heavy trace

3480 - 3495 Dolomite as above, very slightly oolitic, nonpelletal from 3485 to 3490 feet

3495 - 3505 Dolomite as above. Sandstone, pink and light-brown, fine-grained; trace

3505 - 3510 Dolomite, light- and medium-gray and brown, sandy to very sandy (very fine- to coarse-grained sand), microcrystalline. Sandstone, very light-brown, predominantly fine-grained, dolomitic; minor. Dolomite, very light-brown, microcrystalline, sandy; medium-sized pellets and oolites (some with sand grains as centers, some showing two stages of development); trace

3510 - 3520 Sandstone, very light-brown, very light-gray, pinkish-yellow, fine- to coarse-grained (predominantly fine); poorly sorted in part. Dolomite as above, pyritic in part, minor

3520 - 3535 Dolomite as in sample from 3505 to 3510 feet, very sandy. Sandstone as above, subequal to minor

3535 - 3540 Sandstone as above, in part disaggregated. Dolomite as above, minor

3540 - 3560 Dolomite as above. Sandstone as above, minor

3560 - 3565 Dolomite, light- and medium-brown and gray, sandy (very fine- to medium-grained sand), microcrystalline, pelletal, very oolitic (light- to dark-brown oolites). Sandstone, very light-brown to pinkish-yellow, predominantly very fine- and fine-grained; minor

3565 - 3575 As above. Shale, medium- to dark-gray; as laminations in dolomite and sandstone; heavy trace

3575 - 3585 As above, dolomite in part dark brown and gray

3585 - 3595 Dolomite as above, very slightly pelletal and oolitic

3595 - 3600 Sandstone, light-gray and pinkish-yellow, fine- and medium-grained. Sand, fine- to coarse-grained (predominantly medium). Dolomite as above, minor

3600 - 3615 Sandstone and sand as above. Shale, dark-gray; as laminations; trace. MT. SIMON SANDSTONE at 3595 feet

3615 - 3625 Sandstone and sand, 30-40% coarse-grained; minor garnet in sandstone to 3620 feet

3625 - 3630 Shale, medium-gray. Dolomite, light- and medium-brown, sandy (very fine- and fine-grained sand), microcrystalline, slightly pelletal. Sandstone and sand as above, minor

3630 - 3635 Sandstone, pinkish-yellow, light-gray, fine-grained, glauconitic; dolomitic in part. Dolomite and shale as above, trace

3635 - 3640 Sandstone, pinkish-yellow to light-gray, fine- and medium-grained, very glauconitic; some coarse grains

3640 - 3645 Sandstone, pinkish-yellow, very light-brownish-gray, fine- and medium-grained (predominantly fine); glauconitic in part; some coarse-grained sand. Dolomite as above, trace

3645 - 3650 As above. Shale, dark-gray, silty; minor

3650 - 3655 As above, much coarse-grained sand

3655 - 3660 Misplaced sample(?), predominantly silty microcrystalline light- and medium-brown dolomite

3660 - 3665 Sandstone, pinkish-gray and pinkish-yellow, fine- and medium-grained (predominantly fine). Sand, fine- to coarse-grained

3665 - 3670 As above, sandstone containing laminations of silty medium-greenish-gray shale

3670 - 3685 Sand, medium- and coarse-grained, well-rounded. Sandstone as above, minor

3685 - 3730 Sand as above. Orthoclase-quartz gneiss or schist, heavy trace. Some chips of metamorphic rock with blebs of cemented fine-grained sandstone; metamorphics may be present as pebbles or boulders in basal Mt. Simon or sand between 3685 and 3730 feet may be from uphole

TD samples 3930 feet

Pickaway County
Monroe Township
VMSL 4290

Kewanee Oil Co. #1 Long
Permit No. 2
Sample No. 786
Elevation (CM) 856 feet

Depth (ft)

Samples very dusty

2100 - 2125 Limestone, very light-yellowish-brown to yellowish-brown to yellowish-gray and light-brown, lithographic

2125 - 2130 Limestone as above. Shale, light-green; sandy in part (very fine- and fine-grained sand); trace

2130 - 2140 Limestone as above. Shale, medium-greenish-gray, silty

2140 - 2145 Limestone as above. Shale, light- to medium-green, pyritic; minor

2145 - 2150 Shale as above, silty, sandy

2150 - 2155 Limestone, very light-yellowish-brown to light-

gray and medium-brownish-gray, lithographic; argillaceous in part; silty in part. Shale as above

2155 - 2180 Dolomite, very light-yellowish-brown to light-yellowish-gray, microcrystalline; sandy in part (very fine- and fine-grained sand). KNOX DOLOMITE at 2155 feet

2180 - 2190 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) to finely crystalline (very fine- and fine-grained in part?)

2190 - 2215 Dolomite as above. Dolomite, very light-gray, slightly glauconitic, slightly sandy (very fine- and fine-grained sand); very finely sucrosic in part

2215 - 2230 Dolomite as above, sandy, very sandy in part (very fine- to coarse-grained sand). Shale, light-green; heavy trace

2230 - 2240 Dolomite, very light-yellowish-brown to light-brown, microcrystalline to finely crystalline

2240 - 2255 Dolomite as above, very finely sucrosic in part. Dolomite, very light-gray, microcrystalline (dolosiltite)

2255 - 2260 Dolomite as above, sandy to very sandy (very fine- to coarse-grained sand)

2260 - 2270 Dolomite as in sample from 2240 to 2255 feet. Dolomite, very light-yellowish-gray, microcrystalline; very sandy as above; trace

2270 - 2275 Dolomite as in sample from 2255 to 2260 feet. Chert, white, oolitic; trace

2275 - 2300 Dolomite as in sample from 2240 to 2255 feet. Chert as above, trace

2300 - 2325 Dolomite, very light-yellowish-brown to light-yellowish-gray, microcrystalline (dolomicrite to dolosiltite)

2325 - 2390 Dolomite as above. Dolomite, light-brown; very finely and finely sucrosic in part

2390 - 2400 Dolomite, very light-gray to yellowish-gray, microcrystalline (dolosiltite)

2400 - 2410 Dolomite, very light- to light-yellowish-brown and brown, microcrystalline to finely crystalline; sucrosic in part

2410 - 2425 Dolomite as above. Dolomite as in sample from 2390 to 2400 feet

2425 - 2430 Dolomite, very light-gray, microcrystalline (dolosiltite). Sandstone, very light-gray, very fine-grained, very dolomitic, slightly glauconitic; minor

2430 - 2450 Dolomite, very light- and light-yellowish-brown, microcrystalline (dolosiltite) to very finely crystalline; sucrosic in part. Sandstone as above, trace

2450 - 2460 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite), sandy (very fine-grained sand), slightly glauconitic. Sandstone as above, minor

2460 - 2475 Dolomite, light-yellowish-gray to very light-brown, microcrystalline (dolosiltite), silty; pelletal in part (medium-grained, grain-supported)

2475 - 2480 Dolomite as above, very silty, grading into siltstone

2480 - 2485 Dolomite, light-brown and very light-yellowish-brown, microcrystalline (dolosiltite), silty. Siltstone, light-gray and brownish-gray, dolomitic, slightly glauconitic

2485 - 2490 Dolomite, light-yellowish-gray and light-brown, microcrystalline (dolosiltite), silty; in small part finely crystalline. Base of "B zone"

2490 - 2505 Dolomite, light-yellowish-brown and light-brown, very finely and finely crystalline

2505 - 2580 Dolomite as above, sucrosic in part, microcrystalline (dolosiltite) in part

2580 - 2585 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline

2585 - 2590 Dolomite, very light-gray, medium-crystalline

2590 - 2595 Dolomite, very light-gray and light-brown, medium-crystalline

2595 - 2625 Dolomite as above, very finely to medium-crystalline

2625 - 2690 Dolomite, very light-gray and brown, microcrystalline to finely crystalline; becoming predominantly light brown at 2650 feet

2690 - 2695 Dolomite, white, very finely crystalline

2695 - 2700 Dolomite, light-brown, very finely and finely crystalline. Dolomite, light-brownish-gray, microcrystalline (dolosiltite)

2700 - 2705 Dolomite, light-brownish-gray and light-brown, very finely to medium-crystalline

2705 - 2710 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite)

2710 - 2715 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite). Dolomite, very light-yellowish-brown, microcrystalline; pelletal in part (medium-grained, grain-supported)

2715 - 2720 Dolomite as above, pelletal in part, medium brown in part. Dolomite, very light- and light-gray, microcrystalline (dolosiltite), sandy to very sandy (very fine-grained sand); trace

2720 - 2730 Dolomite, very light-grayish-brown and gray, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand)

2730 - 2740 Dolomite, very light-yellowish-brown, microcrystalline (dolomicrite and dolosiltite); slightly vuggy porosity to 2735 feet

2740 - 2760 Dolomite as above, slightly sandy (very fine-grained sand) in part

2760 - 2765 Dolomite as above, slightly sandy (very fine- and fine-grained sand), pelletal in part (medium- and coarse-grained, grain-supported)

2765 - 2770 Dolomite, very light-yellowish-brown and light-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine- to medium-grained sand). KERBEL FORMATION at 2765 feet

2770 - 2775 Dolomite as above, sand very fine to coarse grained. Sandstone, light-brown and very light-gray, very fine- to coarse-grained, poorly sorted; very dolomitic in part; trace

2775 - 2780 Dolomite, very light-gray and brownish-gray, microcrystalline (dolosiltite), slightly sandy (very fine-grained sand)

2780 - 2785 No samples

2785 - 2790 Dolomite as above. Sandstone, very light-gray, very fine- to coarse-grained, poorly sorted; heavy trace

2790 - 2795 Dolomite, very light-brown, microcrystalline, sandy to very sandy; oolitic in part (medium-grained, grain-supported); grading into poorly sorted very fine- to coarse-grained sandstone

2795 - 2830 Sandstone, very light-brown, fine- to coarse-grained, dolomitic, moderately sorted

2830 - 2840 Sandstone, very light-brown, predominantly fine-grained, dolomitic

2840 - 2850 Dolomite, very light-brown and gray, microcrystalline, slightly sandy (medium- and coarse-grained sand)

2850 - 2870 Dolomite as above. Siltstone, light-brown and grayish-brown, dolomitic; argillaceous in part. Sandstone, light-brown, very fine-grained, dolomitic; heavy trace. CONASAUGA FORMATION at 2850 feet

2870 - 2885 Siltstone and very fine-grained sandstone, light-brown and grayish-brown, very slightly glauconitic. Shale, medium-greenish-gray and dark-brown, silty and dolomitic

2885 - 2890 As above, predominantly sandstone and siltstone

2890 - 2900 Shale, medium-greenish-gray and dark-reddish-

brown. Dolomite, very light- and light-gray, bioclastic, slightly glauconitic. Sandstone as above, heavy trace

2900 - 2905 Shale, dark-reddish-brown. Shale, greenish-gray; trace. Dolomite as above, trace

2905 - 2910 Shale, medium-greenish-gray. Shale, reddish-brown, minor. Dolomite, very light-gray, microcrystalline (dolosiltite); trace

2910 - 2915 Shale, medium- and dark-greenish-gray. Dolomite, light-brown and very light-gray, fossiliferous; minor

2915 - 2920 As above, shale very micaceous and silty

2920 - 2930 Siltstone, very light-brown, micaceous, dolomitic, very slightly glauconitic. Shale as above, heavy trace

2930 - 2940 Shale, medium- and dark-greenish-gray. Sandstone, light-greenish-gray, light-brown, very fine-grained, glauconitic; minor. Shale, dark-brown; trace

2940 - 2960 Shale, dark-greenish-gray. Dolomite, light-brown and very light-gray, microcrystalline; in part bioclastic; minor. Sandstone as above, trace

2960 - 2965 Dolomite, light-gray, finely crystalline, fossiliferous, glauconitic. Shale as above, heavy trace

2965 - 2980 Dolomite as above. Sandstone, light-gray, very fine-grained, micaceous, slightly glauconitic, subequal to minor

2980 - 2995 Dolomite, very light-gray and brown, microcrystalline (dolosiltite). Sandstone, very light-yellowish-gray, very fine-grained, dolomitic; minor to heavy trace. ROME FORMATION at 2980 feet

2995 - 3000 Dolomite as above. Sandstone, very light-brown and yellowish-brown, very fine-grained

3000 - 3010 Sandstone as above, slightly glauconitic. Dolomite as above, heavy trace

3010 - 3015 Sandstone, very light-brownish-gray, very fine- and fine-grained, slightly glauconitic, dolomitic

3015 - 3030 Sandstone as above. Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand); minor

3030 - 3035 As above. Sand, medium- and coarse-grained, rounded and frosted; trace

3035 - 3040 Dolomite, very light-yellowish-brown, light-brown, medium-brownish-gray, microcrystalline (dolosiltite); sandy in part (fine- to coarse-grained sand). Sandstone as above, trace

3040 - 3045 Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite), slightly sandy

3045 - 3060 Dolomite as above, very sandy, grading into fine- to coarse-grained sandstone

3060 - 3070 As above, predominantly sandstone

3070 - 3075 Sandstone, very light-brown, fine- to coarse-grained (predominantly medium), dolomitic

3075 - 3080 Sandstone as above, predominantly fine grained

3080 - 3120 Sandstone, very light-brown, very fine- and fine-grained, dolomitic

3120 - 3130 Sandstone as above, light brown to grayish brown in part, some medium- and coarse-grained sand

3130 - 3135 Sandstone, very light-gray to light-brownish-gray, fine- to coarse-grained (predominantly coarse), dolomitic

3135 - 3140 Sandstone, very light-brown, very fine- and fine-grained, dolomitic

3140 - 3145 Sandstone, very light- and light-brown to pinkish-brown, very fine- and fine-grained. Sandstone, very light-gray, fine- to coarse-grained, poorly sorted, very dolomitic; minor

3145 - 3165 Sandstone as above, very light gray, grading into dolomite. Dolomite, sandy, microcrystalline to medium-crystalline; minor

3165 - 3180 As above, sandstone and dolomite in part light and medium gray

3180 - 3185 Dolomite, white, finely and medium-crystalline. Sandstone, fine- and medium-grained, arkosic

3185 - 3190 Gabbro. PRECAMBRIAN

3190 - 3255 Samples not examined, see McCormick (1961)
TD samples 3255 feet

Pickaway County
Pickaway Township
Section 7W

Midwest Oil & Gas #1
Miller
Permit No. 6
Sample No. 1540
Elevation (DF) 693 feet

Depth (ft)

2609 - 2625 Limestone, light-brown, lithographic, fossiliferous (ostracod); bird's-eye structure; patches of microsucrosic dolomite

2625 - 2650 Limestone as above. Limestone, light-gray to brownish-gray, argillaceous, silty, slightly sandy (very fine- and fine-grained sand). Shale, light-greenish-gray and medium-green, silty; minor

2650 - 2662 Shale as above, dark green and medium brownish gray in part, sand in shale very fine to medium grained. Dolomite, light-brown and very light-gray, microcrystalline (dolosiltite), silty, sandy. Wells Creek Formation

2662 - 2675 Dolomite as above. Limestone, light-brown, lithographic; minor. Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline, lustrous, sandy to very sandy (very fine- to medium-grained sand); minor. Shale as above, trace

2675 - 2688 Dolomite, light-gray to very light-brownish-gray and greenish-gray, microcrystalline (dolosiltite) to very finely crystalline, sandy; grading into fine- and medium-grained sandstone. Shale, light-greenish-gray, silty, sandy (very fine- to coarse-grained sand); minor

2688 - 2700 Shale, medium- and dark-green; very sandy in part. Sandstone as above, very fine to coarse grained, sand rounded and frosted

2700 - 2718 Dolomite, light-brownish-gray and light-gray, microcrystalline (dolosiltite). Sandstone as above, trace. KNOX DOLOMITE at 2697 feet (GRN)

2718 - 2753 Dolomite, very light-brown and gray, microcrystalline (dolosiltite) and very finely crystalline

2753 - 2764 Dolomite, very light-brown, light-gray, and grayish-brown, microcrystalline (dolosiltite)

2764 - 2788 Dolomite, very light-brown and gray, microcrystalline (dolosiltite); very fine sample

2788 - 2794 Dolomite, light-gray, microcrystalline (dolosiltite)

2794 - 2805 Dolomite as above and very light brown

2805 - 2814 Dolomite, very light-brown and very light- and light-gray, microcrystalline (dolosiltite); pelletal in part; sandy in part (very fine- and fine-grained sand); in some chips matrix of pelletal dolomite dissolved, leaving a medium-grained grapestone

2814 - 2822 Dolomite as above, no grapestone

2822 - 2842 Dolomite, very light-brown, microcrystalline (dolosiltite). Chert, white; trace

2842 - 2852 Dolomite, very light- and light-brown and light-grayish-brown, microcrystalline (dolosiltite)

2852 - 2864 Dolomite, very light- and light-grayish-brown, microcrystalline (dolosiltite)

2864 - 2874 Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite)

2874 - 2903 Dolomite, very light-yellowish-brown to yellowish-gray, very finely and finely crystalline

and sucrosic

2903 - 2922 Dolomite as above. Dolomite, light-brown and very light-gray, microcrystalline (dolosiltite)

2922 - 2933 Dolomite as above. Chert, white; trace

2933 - 2962 Dolomite, very light-gray, microcrystalline (dolosiltite). Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline

2962 - 2972 Dolomite, very light-grayish-brown and very light- and light-brown, very finely and finely crystalline

2972 - 2983 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite). Quartz, crystalline; trace

2983 - 2996 Dolomite, very light- and light-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline; very silty in part

2996 - 3003 Dolomite, light-brown and grayish-brown, very finely crystalline

3003 - 3008 Dolomite, light-yellowish-gray to very light-yellowish-brown, microcrystalline (dolosiltite). Quartz, crystalline; trace

3008 - 3020 Dolomite as above, very light grayish brown

3020 - 3022 Dolomite, very light- and light-grayish-brown, microcrystalline (dolosiltite)

3022 - 3040 Dolomite as above. Dolomite, light-brown and gray; silty in part

3040 - 3056 Dolomite, very light-gray, microcrystalline (dolosiltite). Siltstone, very light-gray; minor

3056 - 3062 Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite). Siltstone as above, minor

3062 - 3082 Dolomite, light-brown and very light-gray, microcrystalline (dolosiltite) and very finely crystalline; very fine sample

3082 - 3206 Dolomite, very light-gray and light-yellow, very finely crystalline(?); very fine sample

3206 - 3245 Dolomite, very light-gray and brownish-gray, very finely crystalline(?); very fine sample

3245 - 3286 Dolomite as above, very light gray

3286 - 3303 Dolomite as above, white

3303 - 3330 Dolomite, very light- and light-gray, microcrystalline (dolosiltite)

3330 - 3350 Dolomite as above. Dolomite, very light- to medium-brown. Sand, very fine- to medium-grained, rounded; trace. KERBEL FORMATION at 3330 feet

3350 - 3360 Dolomite, very light-grayish-brown to brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand, predominantly fine and medium)

3360 - 3392 Dolomite as above. Dolomite, very light gray. Sample 50% loose sand

3392 - 3406 Dolomite, light-gray, microcrystalline, sandy to very sandy; grading into very fine- to coarse-grained (predominantly very fine) sandstone

3406 - 3417 Dolomite, light-brown, microcrystalline, very silty; grading into siltstone. Dolomite as above, minor. CONASAUGA FORMATION at 3410 feet

3417 - 3440 Sandstone, light-gray, brownish-gray, very fine- and fine-grained, dolomitic to very dolomitic; slightly argillaceous in part

3440 - 3453 Sandstone as above, very light brownish gray in part. Shale, medium-brown and medium-gray to greenish-gray, silty; heavy trace

3453 - 3465 Sandstone, light- and medium-brown, greenish-gray, very light-gray, very fine-grained, silty, slightly dolomitic, slightly glauconitic. Shale, dark-brownish-red, medium-greenish-gray; minor. Dolomite, very light-gray and greenish-gray, microcrystalline; trace

3465 - 3480 Siltstone, very light- to medium-brown, slightly glauconitic; sandy (very fine-grained sand) in part. Shale as above, micaceous, minor

3480 - 3487 Sandstone, very light- and light-gray and light-brown, very fine-grained. Shale, dark-brownish-red, light-greenish-gray, medium-brown; minor

3487 - 3515 Shale, dark-greenish-gray; minor amount brownish red. Siltstone, light-brown and gray, slightly glauconitic. Dolomite, light-brown, microcrystalline; heavy trace

3515 - 3522 Shale, medium- and dark-gray to greenish-gray. Dolomite, light- and medium-brown, microcrystalline, silty. Siltstone as above

3522 - 3530 Shale, light- to dark-greenish-gray. Dolomite, very light- and light-brown and gray, microcrystalline to medium-crystalline, bioclastic(?), silty, sandy (very fine-grained sand); glauconitic in part

3530 - 3540 Dolomite as above. Siltstone, very light-brown, micaceous; heavy trace. Shale, light- to dark-greenish-gray, red; heavy trace

3540 - 3550 Siltstone, very light- and light-brown, micaceous, glauconitic. Dolomite, light-brown, microcrystalline, silty, glauconitic; minor

3550 - 3605 Sandstone, very light-grayish-brown, very fine-grained, slightly glauconitic

3605 - 3635 Dolomite, light-yellowish-gray and very light-brown, microcrystalline (dolomicrite and dolosiltite); very slightly sandy in part (very fine-grained sand). Sandstone as above, trace. ROME FORMATION at 3615 feet (GRN)

3635 - 3658 Dolomite, very light- and light-gray and very light-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand, predominantly fine)

3658 - 3678 Dolomite as above, grading into sandstone. Sandstone, minor

3678 - 3688 Sand, fine- and medium-grained (predominantly fine). Dolomite, very light-gray, microcrystalline, very sandy; heavy trace

3688 - 3720 Sand as above. Dolomite, very light- and light-gray, microcrystalline and very finely crystalline, sandy to very sandy; minor

3720 - 3740 Dolomite, very light-brownish-gray, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand)

3740 - 3758 Dolomite as above, light gray

3758 - 3780 Dolomite, very light-brownish-gray and light-gray and brown, microcrystalline (dolomicrite and dolosiltite), sandy (predominantly fine-grained sand)

3780 - 3802 Dolomite as above, very finely crystalline in part, very sandy in part

3802 - 3815 Dolomite, light- to medium-brown, microcrystalline (dolomicrite), very silty, slightly argillaceous

3815 - 3825 Dolomite, light-grayish-brown and light-gray, microcrystalline (dolomicrite and dolosiltite); oolitic in part (fine-grained, grain-supported). Sandstone, very light-brown, fine- to coarse-grained, poorly sorted; minor

3825 - 3830 Dolomite as above. Dolomite, light-brown. Sandstone as above, trace

3830 - 3837 Sand, fine- to coarse-grained (predominantly fine to medium). Dolomite as above, 30-40%

3837 - 3843 Dolomite, light-grayish-brown, medium- and dark-brown, light- and medium-gray, microcrystalline (dolosiltite), oolitic (medium-grained, grain-supported). Sand, predominantly medium-grained, angular (broken?) to rounded and frosted; minor

3843 - 3854 Dolomite as above. Sand as above, heavy trace

3854 - 3866 Dolomite, light-gray, light-grayish-brown, microcrystalline (dolosiltite), sandy to very sandy (predominantly fine-grained sand); oolitic in part (fine- and medium-grained, grain-supported)

3866 - 3876 Dolomite as above, argillaceous in part. Sand, fine- to coarse-grained
3876 - 3885 Sand as above, predominantly medium grained. Dolomite as above, trace
3885 - 3888 Dolomite, light-gray and brownish-gray, microcrystalline (dolosiltite), sandy (fine- to coarse-grained sand)
3888 - 3900 Dolomite as above, medium gray in part, argillaceous in part. Sandstone, light-pinkish-yellow, fine- to coarse-grained; trace
3900 - 3906 Dolomite as above
3906 - 3914 Dolomite as above. Sand, fine- to coarse-grained
3914 - 3919 Dolomite, light-brown, gray, grayish-brown, microcrystalline (dolosiltite), sandy, oolitic (fine- to coarse-grained, grain-supported). Sand as above, minor
3919 - 3931 Sand as above. Dolomite as above, minor
3931 - 3949 Dolomite as above, light- to dark-brown and gray. Sand, fine- to coarse-grained; minor. Sandstone, fine-grained, pinkish-yellow; trace
3949 - 4077 Sand, fine- to coarse-grained (predominantly coarse), angular (broken?) to rounded and frosted. MT. SIMON SANDSTONE at 3949 feet
4077 - 4080 Sand as above. Sandstone, pink, fine- to medium-grained, hematitic; heavy trace
4080 - 4122 Sand, fine- to coarse-grained (predominantly medium)
4122 - 4137 Sand, fine- to coarse-grained (predominantly coarse)
4137 - 4150 Sand as above. Gneiss, trace. PRECAMBRIAN at 4148 feet
4150 - 4160 Sand as above. Gneiss, minor to heavy trace
4160 - 4170 Gneiss or schist (biotite gneiss or schist with some chlorite-biotite schist)
TD samples 4160 feet

Putnam County
Liberty Township
Section 29

Ohio Oil Co. #1 Barlage
Permit No. 31
Sample No. 156
Elevation (GL) 740 feet

Depth (ft)
1955 - 1970 Limestone, light-grayish-brown and light-brown, micrograined (dolomicrite and dolosiltite); fossiliferous in part; bioclastic in part
1970 - 2000 Limestone as above, clusters of dolomite crystals on some pieces
2000 - 2015 Limestone as above. Siltstone, very light-brown and gray, slightly calcareous
2015 - 2025 Limestone as above, argillaceous in part. Shale, medium-gray; minor
2025 - 2036 Dolomite, white and medium-brown, finely and medium-crystalline; may be bioclastic. Shale, medium-gray to greenish-gray, dolomitic; minor
2036 - 2041 Dolomite as above, predominantly white to very light brown
2041 - 2053 Dolomite as above, white, texture difficult to see; may be dolosiltite;
2053 - 2070 Shale, light-green, dolomitic, silty, pyritic, slightly sandy. Siltstone, light-brown, light-gray, dolomitic; slightly sandy in part (very fine-grained sand). Dolomite, light-brown, microcrystalline (dolosiltite); trace
2070 - 2078 Dolomite, light-yellowish-gray to very light-yellowish-brown, microcrystalline (dolomicrite). KNOX DOLOMITE at 2070 feet
2078 - 2108 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), slightly pyritic
2108 - 2138 Dolomite as above(?), sample very fine and fine grained
2138 - 2155 Dolomite as above(?), very light yellowish brown; sample as above
2155 - 2172 Dolomite, light-yellowish-gray to very light-brown, very finely crystalline
2172 - 2178 Dolomite as above, sucrosic
2178 - 2187 Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite)
2187 - 2200 Dolomite, very light-gray and brown, very finely and finely crystalline; fine sample
2200 - 2212 Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite)
2212 - 2225 Dolomite as above. Dolomite, light-brown. Dolomite crystals, euhedral; heavy trace
2225 - 2236 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite)
2236 - 2318 Dolomite as above, light brown
2318 - 2323 Dolomite as above, slightly glauconitic, in part very finely crystalline, sucrosic
2323 - 2352 Dolomite as in sample from 2225 to 2236 feet
2352 - 2393 Dolomite, very light-brown and very light- to medium-grayish-brown, microcrystalline (dolosiltite)
2393 - 2406 Dolomite, light- and medium-brown, microcrystalline and very finely crystalline (dolosiltite); pelletal in part (medium-grained, grain-supported)
2406 - 2414 Dolomite, very light- and light-brown and grayish-brown, microcrystalline (dolosiltite)
2414 - 2437 Dolomite, very light- and light-brown, microcrystalline (dolosiltite). Shale, black; heavy trace (cavings?) to 2424 feet
2437 - 2464 Siltstone, light-brownish-gray, slightly glauconitic, slightly dolomitic. Shale, light- to medium-gray, dolomitic, silty; minor
2464 - 2487 Siltstone, light-brownish-gray to grayish-brown, slightly dolomitic
2487 - 2503 Siltstone as above. Dolomite, light- to medium-brown, microcrystalline (dolosiltite) to medium-crystalline. Sand, fine-grained, rounded and frosted; trace
2503 - 2520 Dolomite, very light- and light-brown, microcrystalline (dolosiltite)
2520 - 2530 Dolomite as above, silty to very silty
2530 - 2537 Dolomite, very light- to medium-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline, silty; slightly argillaceous in part; glauconitic in part
2537 - 2547 Dolomite as above, very silty
2547 - 2560 Dolomite, very light- to medium-grayish-brown, microcrystalline to medium-crystalline, slightly glauconitic, very silty, sandy (rounded and frosted fine- and medium-grained sand). KERBEL FORMATION at 2547 feet
2560 - 2570 Sandstone, light- and medium-gray and very light-brown, fine- and medium-grained, slightly dolomitic. Sand, fine- and medium-grained, rounded and frosted
2570 - 2577 Sand, very fine- to medium-grained, angular (broken?)
2577 - 2583 Sandstone, light- and medium-gray, fine-grained, slightly glauconitic, slightly dolomitic. Sand, fine- and medium-grained, generally angular and subangular
2583 - 2600 Sand as above. Siltstone, very light-pinkish-gray; minor
2600 - 2610 Siltstone, very light- and light-brownish-gray, dolomitic, slightly glauconitic; some subrounded medium-grained sand, frosted in part. EAU CLAIRE FORMATION at 2600 feet
2610 - 2617 Siltstone as above. Shale, medium-gray; minor
2617 - 2622 Siltstone, light-brown, slightly dolomitic. Shale, medium-gray to greenish-gray; minor
2622 - 2640 Shale as above, minor amount reddish brown
2640 - 2645 Siltstone, light-brown, glauconitic, slightly dolomitic. Shale as above, predominantly greenish gray
2645 - 2650 Shale as above. Siltstone as above, minor
2650 - 2660 Shale, dark-brown; minor amount light to medi-

	um grayish green
2660 - 2670	Siltstone, light-brownish-gray and greenish-gray, slightly glauconitic. Shale, medium-gray, greenish-gray, and reddish-brown
2670 - 2679	Siltstone as above. Shale as above, heavy trace
2679 - 2685	As above. Sand, fine- and medium-grained; trace
2685 - 2690	Siltstone, light-brown and grayish-brown, slightly glauconitic. Shale as above, minor
2690 - 2700	As above. Dolomite, very light-gray, microcrystalline to finely crystalline, slightly glauconitic; heavy trace
2700 - 2722	Siltstone as above. Dolomite and shale as above, heavy trace to trace
2722 - 2752	Sandstone, light-pinkish-brown, very fine- and fine-grained, silty, glauconitic to very glauconitic, slightly dolomitic. Shale, medium-gray and reddish-brown, silty, glauconitic; trace
2752 - 2826	Sand, very fine- and fine-grained, subangular. Sandstone, medium-gray and light-brown, very fine- and fine-grained; glauconitic in streaks
2826 - 2839	Siltstone, light-yellowish-gray to pinkish-gray, very slightly glauconitic, very slightly dolomitic. Shale, medium-gray and reddish-brown, silty, glauconitic; trace. Sand, medium-grained, rounded and frosted; trace
2839 - 2878	As above, siltstone glauconitic to very glauconitic
2878 - 2885	Sand, very fine- and fine-grained, angular to rounded and frosted (predominantly subangular); glauconite pellets
2885 - 2900	Sand as above. Sandstone, light-gray and yellowish-gray, very fine- and fine-grained; minor
2900 - 2907	Sandstone, very light-gray to yellowish-gray, fine- and medium-grained. Sand, fine- to coarse-grained, subangular and subrounded. MT. SIMON SANDSTONE at 2900 feet
2907 - 2924	Sand, very fine- to medium-grained (predominantly fine); angular to rounded with increasing grain size; some frosted grains
2924 - 2935	Sand, very fine- and fine-grained, predominantly subangular
2935 - 2950	Sand, fine- and medium-grained, subangular
2950 - 2958	Sand, medium- and coarse-grained, predominantly rounded and frosted. Sandstone, pinkish-gray, fine-grained
2958 - 2967	Sandstone as above, very fine-grained. Sand, fine- and medium-grained (predominantly fine), subangular to rounded and frosted
2967 - 2980	As above. Sandstone, slightly glauconitic. Shale, medium-gray, glauconitic; trace
2980 - 2989	Sand as above. Sandstone as above, nonglauconitic
2989 - 3007	As above. Shale, medium-gray, trace to 2996 feet
3007 - 3019	Sand, very fine- and fine-grained, subangular to rounded and frosted
3019 - 3032	Sand as above, very fine to medium grained. Sandstone, light-gray, fine- and medium-grained; minor
3032 - 3049	Sand, fine- and medium-grained, subangular to rounded (predominantly subangular); few frosted grains
3049 - 3057	Sand as above. Sandstone, very light-gray and pink, fine- and medium-grained
3057 - 3068	Sand, fine- to coarse-grained, subangular to rounded and frosted with increasing grain size. Sandstone as above
3068 - 3082	Sand as above
3082 - 3092	Sand, predominantly coarse-grained, rounded and frosted; broken in part
3092 - 3102	Sand, fine- to coarse-grained, subangular to rounded; few frosted grains
3102 - 3107	Sand, predominantly coarse-grained, subrounded and rounded, frosted
3107 - 3181	Sand as in sample from 3092 to 3102 feet, predominantly medium grained, most coarse grains rounded and frosted
3181 - 3183	Sand, medium-grained, predominantly angular and subangular
3183 - 3237	Sand as in sample from 3107 to 3181 feet
3237 - 3250	Sand, fine- and medium-grained, angular to rounded and frosted; few coarse grains
3250 - 3377	Sand, fine- and medium-grained, angular to rounded; 60% of samples dark red to pink, probably orthoclase. PRECAMBRIAN at 3250 feet, McCormick (1961, p. 3, 48)
	TD samples 3377 feet

Richland County
Madison Township
Section 16

Empire Reeves Steel Division #1 Empire Reeves Steel Division
Permit No. 448
Sample No. 2040
Elevation (KB) 1176 feet

Depth (ft)	
	Samples above 4100 feet not examined
4100 - 4150	Limestone, light-yellowish-gray and light-brown, sublithographic and fine-grained, finely crystalline; some recrystallized fossil fragments. Shale, red, green, gray; cavings; heavy trace
4150 - 4170	Limestone as above. Shale as above, heavy trace. Shale, light-grayish-green; sandy and silty in part; trace
4170 - 4180	Limestone as above, trace. Shale, light- and medium-gray and greenish-gray
4180 - 4190	Limestone, light- and medium-brown, lithographic to finely crystalline. Shale as above, minor
4190 - 4200	Dolomite, white and very light-brown, finely crystalline, slightly glauconitic; sandy in part (very fine- and fine-grained sand). Limestone and shale as above, trace. Dolomite, light-green, finely crystalline, sandy and silty; trace. KNOX DOLOMITE at 4197 feet (GRN)
4200 - 4220	Dolomite as above, very light brownish gray and light brown
4220 - 4240	Dolomite as above. Limestone and shale, cavings
4240 - 4270	Sandstone, very light-gray, very fine-grained, glauconitic, slightly dolomitic. Dolomite, light-brown, finely crystalline, slightly glauconitic; minor
4270 - 4280	As above. Shale, light-green, waxy; trace
4280 - 4320	Dolomite, very light-brownish-gray to light-yellowish-gray, very finely and finely crystalline; medium grained in part
4320 - 4350	Dolomite as above, medium grained in part, medium and coarsely crystalline
4350 - 4360	Dolomite as above. Sandstone, very light-brownish-gray to very light-gray, very fine- and fine-grained, slightly glauconitic
4360 - 4370	Sandstone as above. Dolomite as above, minor
4370 - 4380	Dolomite, light-brown, finely and medium-crystalline, very slightly sandy (very fine sand). Sandstone as above, minor
4380 - 4410	Dolomite as above. Dolomite, very light-gray (pelletal?), becoming silty and sandy (very fine sand)
4410 - 4440	Dolomite as above. Sandstone, very light-gray, very fine- and fine-grained, glauconitic; minor
4440 - 4460	As above. Sand, fine- and medium-grained, subrounded and rounded; frosted in part; heavy trace. KERBEL FORMATION at 4440 feet

4460 - 4510	Dolomite, white and very light-gray, finely and medium-crystalline, sandy (fine- and medium-grained sand); minor amount light brown
4510 - 4520	Dolomite, light-brown to very light-brownish-gray, finely crystalline, sandy. Sand, medium- and coarse-grained, rounded; heavy trace
4520 - 4540	Sand and dolomitic sandstone, fine- and medium-grained, rounded; frosted in part; minor amount coarse grained
4540 - 4560	As above. Dolomite, very light-brown, finely crystalline, sandy; minor
4560 - 4570	As above. Shale, dark-gray to grayish-brown, dolomitic; trace. CONASAUGA FORMATION at 4560 feet
4570 - 4580	Dolomite as above. Sandstone, fine-grained, dolomitic. Shale as above, heavy trace to trace
4580 - 4590	Sandstone, light-brown and gray, very fine- and fine-grained, slightly glauconitic (Eau Claire?); dolomitic in part. Shale as above
4590 - 4610	As above. Dolomite, light-brown, medium- and coarse-grained(?), finely crystalline; sandy in part; minor
4610 - 4650	Sandstone as in sample from 4580 to 4590 feet. Shale as above
4650 - 4660	Dolomite, white, finely crystalline, slightly sandy (very fine-grained sand); coarsely recrystallized in part. ROME FORMATION at 4634 feet (GRN)
4660 - 4670	No sample
4670 - 4700	Dolomite as above, very light brown to grayish brown in part
4700 - 4710	Dolomite, light- and medium-brown, finely and medium-crystalline, slightly sandy (secondary growth on rounded fine- and medium-grained sand); medium grained in part
4710 - 4720	Dolomite as above(?), sample mostly caved green and red shale and some limestone
4720 - 4730	No sample
4730 - 4740	As in sample from 4710 to 4720 feet
4740 - 4750	No sample
4750 - 4760	Dolomite, white to very light-brownish-gray and light-brown, finely crystalline, slightly sandy (very fine- and fine-grained sand); medium grained in part
4760 - 4800	No sample
4800 - 4810	Dolomite, light-yellowish-gray, light-gray, and light-brownish-gray, very finely and finely crystalline, sandy (very fine- and fine-grained sand), slightly pelletal
4810 - 4820	No sample
4820 - 4830	Dolomite as in sample from 4800 to 4810 feet, not pelletal
4830 - 4840	No sample
4840 - 4870	Dolomite as above
4870 - 4880	Dolomite as above. Dolomite, microcrystalline and very finely crystalline, pelletal (dark-brown pellets in white matrix); micaceous in part; trace
4880 - 4890	Dolomite, light-yellowish-gray
4890 - 4910	Cavings
4910 - 4920	Dolomite, light-yellowish-gray, light-brown, and dark-brown, sandy (very fine- and medium-grained sand), microcrystalline and very finely crystalline, pelletal; mostly cavings
4920 - 4930	Dolomite as above. Sandstone, very fine- and fine-grained; heavy trace
4930 - 4950	Dolomite as above, brown. Sandstone, fine- to coarse-grained; grains rounded
4950 - 4960	Dolomite as above, brown, sandy. Sandstone as above, trace
4960 - 4990	Dolomite as above, oolitic in part. Sandstone as above
	TD samples 4990 feet
	MT. SIMON SANDSTONE at 4993 feet
	PRECAMBRIAN at 5061 feet

Richland County
Washington Township
Section 14

Tri-State Producing Co.
#2 Scott
Permit No. 431
Sample No. 2003
Elevation (KB) 1458 feet

Depth (ft)	
	Poor samples because of cavings
4550 - 4565	Limestone, light- and medium-brown, lithographic and micrograined. Shale cavings. Shale, light-green; trace
4565 - 4570	Limestone as above. Dolomite, very light- and light-brown, microcrystalline (dolosiltite); heavy trace. Shale as above, trace. Siltstone, light-greenish-gray; trace. KNOX DOLOMITE at 4565 feet (GRN)
4570 - 4585	Dolomite as above. Shale cavings
4585 - 4595	No sample
4595 - 4610	As in sample from 4570 to 4585 feet
4610 - 4635	Dolomite, very light- and light-brown, microcrystalline (dolosiltite). Siltstone, very light-gray, very slightly glauconitic; trace. Shale cavings
4635 - 4645	Siltstone, very light-brown, very slightly glauconitic, slightly dolomitic; 80%. Dolomite as above, silty, 20%
4645 - 4655	Dolomite, very light- and light-brown, microcrystalline (dolosiltite), silty; very slightly glauconitic in part
4655 - 4670	Siltstone, very light-gray and greenish-gray, very light- to medium-brown, slightly glauconitic; very dolomitic in part; 80%. Dolomite as above, 20%
4670 - 4675	Dolomite, light-brown, microcrystalline (dolosiltite). Siltstone as above, trace
4675 - 4685	Dolomite as above, 50%. Siltstone as above, 50%
4685 - 4695	Dolomite as above, 90%. Siltstone as above, 10%
4695 - 4705	Dolomite as above
4705 - 4710	No sample
4710 - 4730	Dolomite as above
4730 - 4745	Dolomite as above. Siltstone, very light-greenish-gray and gray; trace
4745 - 4750	Dolomite as above
4750 - 4755	Siltstone, very light-gray to brownish-gray, slightly dolomitic
4755 - 4760	Siltstone as above, 70%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite); 30%
4760 - 4770	Dolomite as above, silty
4770 - 4775	Dolomite as above, 60%. Siltstone, very light-gray and brownish-gray, slightly dolomitic; 40%
4775 - 4785	Dolomite as above, 90%. Siltstone as above, 10%
4785 - 4815	Dolomite as above. Siltstone as above, trace
4815 - 4825	Dolomite as above, 60%. Siltstone, very light-gray, brownish-gray, light-greenish-gray, slightly glauconitic, slightly dolomitic, slightly sandy (very fine-grained sand); 40%
4825 - 4835	Siltstone, very light-gray, greenish-gray, brownish-gray, slightly glauconitic, slightly dolomitic
4835 - 4840	Siltstone as above, 50%. Dolomite, light-brown, microcrystalline (dolosiltite), slightly glauconitic; 50%
4840 - 4845	Siltstone as above, trace. Dolomite as above, slightly sandy (rounded and frosted fine-grained sand)
4845 - 4855	Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone as above, trace
4855 - 4865	Dolomite, very light- and light-brown, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand)
4865 - 4900	Dolomite, very light-gray, very light- and light-

brown, microcrystalline (dolosiltite); slightly sandy as above

4900 - 4910 Dolomite, very light-gray, very light- to dark-brown, microcrystalline (dolosiltite), slightly sandy (very fine- to coarse-grained sand). KERBEL FORMATION at 4900 feet

4910 - 4920 Dolomite as above, very light brownish gray, very light and light brown

4920 - 4930 Dolomite as above, sandy

4930 - 4950 Dolomite as above, very sandy

4950 - 4955 Sand, fine-grained, subrounded. Shale cavings

4955 - 4960 Shale cavings

4960 - 4970 Sandstone, light-brownish-gray to brown, very fine- and fine-grained, dolomitic. Cavings

4970 - 4995 As above, some medium-grained sand in sandstone

4995 - 5010 Shale cavings. CONASAUGA FORMATION at 4995 feet

5010 - 5015 Shale cavings. Siltstone, light-brownish-gray, dolomitic

5015 - 5020 Siltstone, very light- and light-brownish-gray and grayish-brown, slightly glauconitic, dolomitic; some fine- and medium-grained sand

5020 - 5025 Sandstone, very light-gray, light-yellowish-gray, light- and medium-brown, very fine-grained, slightly glauconitic; 90%. Siltstone as above, 10%

5025 - 5030 Sandstone, light-yellowish-gray, very fine-grained; slightly glauconitic in part

5030 - 5045 Sandstone as above. Sandstone, light-gray to very light-brownish-gray

5045 - 5050 Siltstone, medium-brown, sandy (very fine-grained sand); 70%. Sandstone as above, some fine- to coarse-grained sand, 30%

5050 - 5055 Siltstone as above, 60%. Sandstone as above, 20%. Dolomite, light-yellowish-gray, light-gray, brown, microcrystalline (dolosiltite), slightly sandy (very fine-grained sand). ROME FORMATION at 5052 feet (GRN)

5055 - 5065 Dolomite as above, sandy to very sandy (very fine- to medium-grained sand), grading into sandstone. Sandstone, 5%

5065 - 5070 Dolomite, light-yellowish-gray, light-gray, light-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand)

5070 - 5095 Dolomite, light-yellowish-gray, very light-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- and fine-grained sand, some medium-grained sand), pelletal or oolitic. Sandstone, light-yellowish-gray, very fine- and fine-grained; trace

5095 - 5115 Dolomite as above, slightly sandy

5115 - 5140 Dolomite, very light-gray, light-yellowish-gray, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine- and fine-grained sand); pelletal in part

5140 - 5150 Shale cavings

5150 - 5160 Dolomite as above

5160 - 5165 Dolomite as above, finely crystalline in part

5165 - 5170 Dolomite, very light- and light-gray, brownish-gray, brownish-gray, brown, microcrystalline (dolosiltite) to finely crystalline, sandy (very fine- to medium-grained sand)

5170 - 5175 Dolomite, very light-gray, light-yellowish-gray, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline

5175 - 5195 Dolomite as above, light brown in part, in part pelletal and dolarenitic (rounded and subrounded fine to coarse grains). Sandstone, light-gray, very fine- to medium-grained; trace

5195 - 5235 Dolomite as above, light gray in part, pelletal, slightly sandy (very fine- to medium-grained sand)

5235 - 5270 Dolomite as above, sandy to very sandy

5270 - 5295 Dolomite, very light- and light-gray, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine-grained sand); pelletal in part

5295 - 5300 Dolomite as above, sandy (very fine- and fine-grained sand)

5300 - 5315 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), pelletal, slightly sandy (very fine-grained sand); few oolites

5315 - 5335 Dolomite as above, light to dark brown, sandy to very sandy (very fine- to medium-grained sand)

5335 - 5340 Cavings

5340 - 5355 Dolomite as above, very light and light gray in part

5355 - 5365 Dolomite, light-grayish-brown to dark-brown, microcrystalline, silty, sandy (very fine- to medium-grained sand); 70%. Sandstone, very light-gray, brown, medium-grained, siliceous; some fine- to coarse-grained sand; 30%

5365 - 5370 Cavings

5370 - 5380 As in sample from 5355 to 5365 feet. Cavings

5380 - 5390 Dolomite as above, some oolites, 80%. Sandstone as above, 20%

5390 - 5405 Dolomite as above, 60%. Sandstone as above, 40%

5405 - 5410 Sandstone as above, 70%. Dolomite as above, 30%. MT. SIMON SANDSTONE at 5405 feet

5410 - 5420 Sandstone, very light-brown, gray, fine- and medium-grained; some coarse-grained sand, 90%. Dolomite as above, very sandy, 10%

5420 - 5425 Sandstone as above. Dolomite as above, trace

5425 - 5430 Dolomite, light-gray and dark-brown, microcrystalline (dolosiltite), sandy; grading into very fine- to medium-grained sandstone

5430 - 5440 Dolomite as above, 90%. Sandstone, very light-brown, fine- and medium-grained; 10%

5440 - 5445 Sandstone, very light-gray and brown, very fine- to medium-grained; 80%. Dolomite as above, 20%

5445 - 5460 Sandstone as above. Sandstone, light-gray. Dolomite as above, trace

5460 - 5495 Sandstone as above, very fine to coarse grained

5495 - 5503 Sandstone as above, friable in part, 50%. Granite or granite gneiss, 50%. PRECAMBRIAN at 5497 feet

TD samples 5503 feet

Ross County
Concord Township
VMSL not available

Crest Oil Co. #1 Clark
Permit No. 9
Sample No. 1454
Elevation (KB) 1033 feet

Depth (ft)

2200 - 2245 Limestone, very light- to medium-brown, lithographic and micrograined; patches of sucrosic dolomite

2245 - 2255 Limestone as above. Shale, medium- and dark-green; trace

2255 - 2285 Limestone as above, with ostracod. Shale as above. Shale, greenish-gray; heavy trace

2285 - 2290 As above. Dolomite, very light-grayish-brown, micrograined, silty; minor

2290 - 2295 Dolomite as above. Limestone as above, minor. Shale as above, trace

2295 - 2305 Dolomite as above. Limestone as above, minor. Shale, medium- and dark-green, trace. Sand, fine-grained; trace

2305 - 2315 As above. Siltstone, very light-gray, sandy (very fine-grained sand); trace

2315 - 2320 Sandstone, light-gray, very fine-grained. Sand, fine- and medium-grained, rounded and frosted; trace. Limestone, shale, dolomite as above, cavings

2320 - 2325 Sandstone, very light-gray, very fine- to coarse-

grained (predominantly very fine), poorly sorted, dolomitic. Cavings

2325 - 2340 Dolomite, very light-gray and brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand); grading into sandstone. Sandstone, dolomitic, predominantly very fine- and fine-grained. KNOX DOLOMITE at 2316 feet (GRN)

2340 - 2355 Dolomite, light-gray and very light- and light-brown, microcrystalline (dolosiltite); sandy in part (very fine- and fine-grained sand)

2355 - 2380 Dolomite, very light-gray and brown, microcrystalline (dolosiltite); sandy in part as above

2380 - 2395 Dolomite, very light- and light-brown, microcrystalline (dolosiltite)

2395 - 2405 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), pelletal (fine-grained, grain-supported); some porosity due to dissolution of pellets

2405 - 2420 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline

2420 - 2435 Dolomite, very light-gray, microcrystalline (dolosiltite), slightly silty and sandy (very fine-grained sand)

2435 - 2450 Dolomite, light- and medium-brown, microcrystalline (dolosiltite); very finely sucrosic in part

2450 - 2455 Dolomite as above, pelletal in part (fine-grained, grain-supported). Dolomite, very light-gray, microcrystalline (dolosiltite)

2455 - 2460 Dolomite, very light- and light-brown, microcrystalline (dolosiltite). Chert, white, oolitic (medium- and coarse-grained brown oolites); heavy trace

2460 - 2465 Dolomite as above, very light grayish brown in part. Chert as above, trace

2465 - 2470 Dolomite as above, very finely crystalline in part, probably pelletal in part

2470 - 2480 Dolomite, very light-gray and brown, microcrystalline (dolosiltite); sandy in part (very fine- to coarse-grained sand). Chert, white; sandy as above in part; trace

2480 - 2490 Dolomite, very light-brown and grayish-brown, microcrystalline (dolosiltite)

2490 - 2500 Dolomite as above, dolomicrite in part

2500 - 2510 Dolomite, white and light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline; pelletal(?) in part

2510 - 2550 Dolomite, light- and medium-brown, microcrystalline and very finely crystalline

2550 - 2570 Dolomite, very light- to light-yellowish-brown, microcrystalline (dolosiltite) and very finely crystalline

2570 - 2610 Dolomite as above. Dolomite, white, microcrystalline (dolosiltite)

2610 - 2665 Dolomite, light-brown to very light-yellowish-brown, microcrystalline and very finely crystalline

2665 - 2670 Dolomite, very light-gray, microcrystalline (dolomicrite and dolosiltite); trace of very fine glauconitic specks

2670 - 2675 Dolomite as above. Dolomite, light-brown, very finely crystalline

2675 - 2680 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) and very finely crystalline

2680 - 2705 Dolomite as above. Siltstone, very light-gray and brownish-gray, dolomitic; grading into dolomite. Dolomite, with silt-sized glauconitic specks, minor

2705 - 2725 Siltstone as above. Dolomite, very light-yellowish-brown to light-brown, microcrystalline, silty to very silty

2725 - 2735 Dolomite, light-brown, microcrystalline and very finely crystalline, fossiliferous(?) (brachiopod fragment?). Siltstone as above, minor

2735 - 2740 Dolomite, very light- and light-yellowish-brown and brown, microcrystalline (dolosiltite)

2740 - 2760 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline. Pyrite, trace

2760 - 2780 Dolomite, light-yellowish-gray, very finely crystalline. Dolomite as above, minor

2780 - 2790 Dolomite as above, light-yellowish-gray. Pyrite, trace

2790 - 2800 Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolosiltite) and very finely crystalline. Pyrite, trace

2800 - 2805 Dolomite as above, predominantly microcrystalline

2805 - 2810 Dolomite, light-yellowish-gray, very finely and finely crystalline

2810 - 2820 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite)

2820 - 2830 Dolomite as above. Dolomite, medium-brown

2830 - 2850 Dolomite, very light-yellowish-brown to gray, microcrystalline (dolosiltite) and very finely crystalline

2850 - 2855 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite) to finely crystalline

2855 - 2895 Dolomite as above. Dolomite, light-brown, finely and medium-sucrosic; becoming finely and medium crystalline in part at 2870 feet

2895 - 2915 Dolomite, very light-brownish-gray to medium-brown, microcrystalline (dolosiltite) and finely crystalline

2915 - 2930 Dolomite, light- and medium-brown, very finely to medium-crystalline

2930 - 2955 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) to finely crystalline

2955 - 2985 Dolomite as above. Dolomite, very light- and light-yellowish-brown

2985 - 3005 Dolomite as above, slightly silty and sandy (very fine-grained sand) and very slightly glauconitic

3005 - 3015 Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolosiltite)

3015 - 3040 Dolomite as above, sandy (very fine- to medium-grained sand) in part

3040 - 3050 Dolomite, very light-gray, light-yellowish-gray to light-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (very fine- and fine-grained sand). Sandstone, light-brownish-gray, fine-grained, dolomitic; trace

3050 - 3055 Dolomite, light-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand)

3055 - 3060 Dolomite as above, light yellowish brown to medium brown

3060 - 3065 Dolomite, light-brown, microcrystalline (dolosiltite); sandy as above. Dolomite, very light-gray, microcrystalline (dolosiltite), sandy to very sandy (fine- to coarse-grained sand); grading into poorly sorted sandstone. KERBEL FORMATION at 3060 feet

3065 - 3085 Sandstone, very light-gray and very light-grayish-brown, very fine- and fine-grained, dolomitic; some medium and coarse grains

3085 - 3095 Sandstone as above, light brownish gray

3095 - 3100 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), very sandy; grading into very fine- and fine-grained sandstone. Shale, medium-brown, slightly grayish, dolomitic, silty; minor

3100 - 3105 Sandstone, light-grayish-brown and brownish-gray, very fine- to medium-grained, well-

sorted, dolomitic. Shale as above. Shale, dark-brown; minor

3105 - 3135 Shale as above. Dolomite, light-grayish-brown to medium-brown, microcrystalline (dolosiltite), silty to very silty. CONASAUGA FORMATION at 3105 feet

3135 - 3140 Dolomite as above. Shale, dark-brown and medium-gray; minor

3140 - 3150 Shale, medium-greenish-gray and medium-grayish-brown, silty; micaceous in part. Dolomite, medium-brown, microcrystalline (dolosiltite), silty. Limestone, very light-grayish-brown, fine-grained; trace

3150 - 3160 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite), silty. Shale, dark-brown and grayish-brown; minor

3160 - 3170 As above. Limestone, light-brownish-gray to medium-brown, lithographic; trace

3170 - 3180 Dolomite, light-yellowish-gray, light- and medium-brown, microcrystalline (dolosiltite); very silty in part. Limestone, light- and medium-brown, lithographic; minor. Shale, dark-greenish-gray and brownish-gray; minor. Sandstone, light-yellowish-gray, fine-grained, dolomitic; trace

3180 - 3195 Shale, dark-brownish-red, dark-brownish-gray and greenish-gray. Limestone, very light-gray to medium-brownish-gray, lithographic to bioclastic; minor. Silty dolomite and sandstone as above, heavy trace

3195 - 3210 Shale as above, gray. Dolomite as above. Siltstone, medium-grayish-brown, light-grayish-brown, micaceous, dolomitic. Limestone as above, trace

3210 - 3240 Shale, dark-greenish-gray, dark-brown, and reddish-brown. Siltstone as above, slightly glauconitic. Limestone and dolomite as above, trace

3240 - 3250 As above, predominantly shale

3250 - 3260 Shale, dark-greenish-gray; minor amount dark brown and reddish brown. Limestone, light- and medium-greenish-gray and brown, lithographic to bioclastic and fossiliferous; silty in part. Siltstone, very light-brown; trace

3260 - 3275 As above. Limestone, very glauconitic in part

3275 - 3280 As above, limestone pelletal in part

3280 - 3285 Shale as above. Limestone as above. Dolomite, very light-gray, finely and medium-crystalline; minor. Siltstone, light-brown, glauconitic; minor

3285 - 3295 Siltstone as above, argillaceous in part, micaceous. Dolomite, very light-gray, microcrystalline to medium-crystalline, glauconitic; minor

3295 - 3300 Siltstone, very light- and light-brown, micaceous, glauconitic

3300 - 3310 Sandstone, very fine-grained. Siltstone, very light-brown to pinkish-brown, glauconitic

3310 - 3315 Sandstone, light-brown, fine-grained, dolomitic. Sandstone, light-yellowish-gray, very dolomitic; grading into dolomite. ROME FORMATION at 3307 feet (GRN)

3315 - 3320 Light-brown sandstone as above, very dolomitic

3320 - 3330 Sandstone, light-brown, fine- and medium-grained, dolomitic; many coarse grains

3330 - 3340 Sandstone, very light-brownish-gray, poorly sorted, fine- to coarse-grained; coarse grains rounded and frosted

3340 - 3350 Sandstone, very light-brown, very fine- to coarse-grained (predominantly very fine), poorly sorted

3350 - 3360 Sandstone, very light- and light-brown, very fine-grained, dolomitic; grading into dolomite

3360 - 3365 Sandstone, very light-grayish-brown, very fine-grained, dolomitic

3365 - 3370 Sandstone, very light- and light-brown, very fine-grained, dolomitic; grading into dolomite

3370 - 3380 Dolomite, light- to medium-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand)

3380 - 3395 Dolomite as above, silty, very slightly glauconitic

3395 - 3405 Sandstone, very light-brown to medium-brown, very fine-grained, slightly glauconitic

3405 - 3420 Sandstone, very fine-grained. Siltstone, very light-brown and yellowish-brown, slightly glauconitic, slightly dolomitic. Shale, dark-greenish-gray; heavy trace to trace

3420 - 3430 As above, sandstone and siltstone very dolomitic in part, micaceous, very light grayish brown in part

3430 - 3445 Sandstone, light-brown to yellowish-brown, fine- and medium-grained, very dolomitic, oolitic (medium-grained, grain-supported, sand-centered); grading into dolomite. Sandstone, light-gray, light-pinkish-brown, very fine-grained, glauconitic; minor

3445 - 3455 As above. Dolomite, light-yellowish-gray to light-gray, microcrystalline (dolosiltite), sandy (fine- to medium-grained); oolitic and pelletal in part (fine-grained, grain-supported), heavy trace

3455 - 3465 Dolomite, very light- and light-gray, microcrystalline (dolosiltite), sandy to very sandy; grading into fine- to coarse-grained sandstone. Sandstone, light-pinkish-yellow, very fine- and fine-grained; minor

3465 - 3470 As above. Siltstone, medium-brown, sandy, glauconitic; minor. Shale, dark-greenish-gray, micaceous; trace

3470 - 3505 As in sample from 3455 to 3465 feet

3505 - 3515 Sandstone, very light-gray and pinkish-gray, very fine- to coarse-grained, dolomitic

3515 - 3525 Sandstone as above. Sandstone, light- and medium-brown, fine- to coarse-grained, very dolomitic; grading into dolomite with some medium-grained oolites

3525 - 3530 As above, predominantly dolomite, pelletal in part (fine-grained, grain-supported)

3530 - 3545 Dolomite as above, black oolites

3545 - 3560 Dolomite, very light- and light-gray and brown, microcrystalline (dolosiltite), sandy to very sandy; few fine-grained oolites; grading into fine-grained sandstone with some medium and coarse grains

3560 - 3570 Dolomite, very light-brownish-gray and grayish-brown, microcrystalline (dolosiltite); grading into fine- to coarse-grained sandstone

3570 - 3580 Sandstone, light-yellowish-gray, predominantly fine-grained, dolomitic

3580 - 3585 Sandstone as above, very fine grained

3585 - 3600 Sandstone, light-yellowish-gray to very light-brown, very fine- and fine-grained, dolomitic. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand); oolitic (fine- and medium-grained, grain-supported) in part

3600 - 3610 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), silty, sandy (very fine- to fine-grained sand); few fine-grained dark-brown oolites; fine- and medium-grained dolarenite in part

3610 - 3620 Dolomite as above, light- to dark-brown dolomicrite in part

3620 - 3625 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), pelletal and oolitic (fine- and medium-grained, grain-supported),

sandy (very fine-grained sand)

3625 - 3640 Dolomite as above, very sandy (very fine- to coarse-grained sand), light to dark gray in part, abundant loose gray and brown oolites to 3630 feet

3640 - 3650 Dolomite, light- to very dark-brown, microcrystalline (dolosiltite), silty; pelletal (very fine- and fine-grained, grain-supported) in part. Sandstone, light-pinkish-brown, fine-grained; trace

3650 - 3655 Dolomite as above, light and medium gray in part, containing coarse-grained pellets, sandy (very fine- and fine-grained sand)

3655 - 3660 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), argillaceous, sandy (fine- to coarse-grained sand); minor amount medium and dark brown. Sandstone, pink, fine-grained; trace

3660 - 3675 Sand, fine- to coarse-grained, poorly sorted. Dolomite, argillaceous and sandy; trace. MT. SIMON SANDSTONE at 3660 feet

3675 - 3685 Sandstone, very light-grayish-brown, very fine-grained; some fine- to coarse-grained sand

3685 - 3695 Sandstone as above, light yellowish brown in part, slightly glauconitic

3695 - 3705 Sandstone, very light-grayish-brown to pinkish-yellow, very fine- and fine-grained, glauconitic. Shale, dark-greenish-gray; heavy trace

3705 - 3725 Sandstone as above, glauconitic in part. Sand, very fine- to coarse-grained

3725 - 3730 Sandstone, pinkish-yellow, very fine- and fine-grained. Sand, fine- to coarse-grained

3730 - 3735 Sand as above. Sandstone, pinkish-yellow to light-greenish-gray, very fine- and fine-grained; argillaceous in part. Shale, dark-greenish-gray, silty; sandy in part; heavy trace

3735 - 3745 Sand as above. Sandstone as above, pinkish yellow, minor. Dolomite, light-brownish-gray, microcrystalline (dolosiltite), sandy, oolitic; heavy trace

3745 - 3755 Sand, fine- to coarse-grained. Sandstone, colorless, fine-grained, siliceous; trace

3755 - 3790 Sand as above. Sandstone, pink, very fine-grained; trace

3790 - 3800 Sand as above, predominantly coarse to very coarse grained

3800 - 3820 Sand as above. Sandstone, pink, very fine- and fine-grained; trace

3820 - 3845 As above. Shale, red, silty; trace

3845 - 3862 Granite or granite gneiss, chloritic. Sandstone, trace. PRECAMBRIAN at 3845 feet
TD samples 3862 feet

Sandusky County
Townsend Township
Section 33

The East Ohio Gas Co. #1
Haff
Permit No. 77
Sample No. 895
Elevation (DF) 644 feet

Depth (ft)

2455 - 2483 Limestone, light- and medium-brown, lithographic and sublithographic (fine dark-brown dolomite or calcite crystals in sublithographic limestone). Limestone, medium- and dark-brown, finely crystalline, dolomitic to very dolomitic

2483 - 2500 Limestone as above. Shale, medium-grayish-green. Siltstone, light-gray, very sandy (very fine sand), pyritic

2500 - 2507 Sandstone, light-gray and greenish-gray, fine-grained, slightly glauconitic, dolomitic. Limestone and shale as above, minor. Dolomite, very light-gray, finely and medium-crystalline; trace

2507 - 2513 Sandstone as above. Dolomite as above, medium brown in part. Shale and limestone as above, minor. KNOX DOLOMITE at 2512 feet (GRN)

2513 - 2524 Dolomite, very light- and light-gray, finely and medium-crystalline; broken sample

2524 - 2528 Dolomite as above. Sand, fine-grained, subrounded (very sandy dolomite?). Very fine sample

2528 - 2533 As above, sand fine and medium grained. KERBEL FORMATION at 2528 feet

2533 - 2538 Dolomite, very light-gray, finely crystalline, slightly glauconitic, very sandy (fine- and medium-grained sand)

2538 - 2551 Dolomite as above, very light brownish gray in part

2551 - 2569 Sand, fine- and medium-grained, subangular and subrounded. Dolomite, very light-gray, microcrystalline, (dolomitic sandstone?); 30-40%

2569 - 2576 As above, sand fine to coarse grained, angular to rounded, frosted in part

2576 - 2615 Sand, fine- and medium-grained, angular to rounded; 80%. Dolomite as above, 20%

2615 - 2629 Sandstone, light- and medium-gray, fine-grained, friable, slightly dolomitic; silty in part. Shale, dark-brown; trace

2629 - 2639 Sandstone as above, medium gray to brownish gray. Shale as above, trace

2639 - 2734 Sandstone as above, very light to medium gray and brownish gray, slightly glauconitic, slightly micaceous, shale partings. Shale, dark-brown to grayish-brown, micaceous, heavy trace to trace. Dolomite, sandy and silty; shale partings; trace. CONASAUGA FORMATION at 2639 feet

2734 - 2741 Dolomite, white to light-gray, very finely and finely crystalline, sandy (very fine- and fine-grained sand). Sandstone as above. ROME FORMATION at 2745 feet (GRN)

2741 - 2753 Dolomite as above

2753 - 2764 Dolomite as above, very sandy (fine- and medium-grained sand)

2764 - 2786 Dolomite as above, slightly sandy

2786 - 2793 Dolomite as above, slight pinpoint porosity

2793 - 2800 Dolomite as above, very sandy, minor part of sand pink. Dolomite, oolitic; trace

2800 - 2814 Dolomite, very light- and light-gray and light-brown, very finely crystalline, sandy, pelletal, oolitic(?)

2814 - 2828 Dolomite as above, very sandy (fine- to coarse-grained sand)

2828 - 2836 Sand, fine- and medium-grained, angular to rounded; frosted in part

2836 - 2846 Sand as above. Dolomite, very light-gray, microcrystalline, sandy to very sandy; minor

2846 - 2853 Sand as above

2853 - 2880 Sand as above. Sandstone, fine-grained, slightly dolomitic

2880 - 2900 Sand and sandstone as above. Dolomite, light-brown, microcrystalline; slightly sandy in part; oolitic in part; minor

2900 - 2925 Dolomite, light-brown, microcrystalline, sandy (predominantly fine- and medium-grained sand), oolitic

2925 - 2951 Dolomite as above, light and medium brown, very sandy (fine- to coarse-grained sand)

2951 - 2965 Dolomite as above. Sand and sandstone, fine- to coarse-grained. MT. SIMON SANDSTONE at 2958 feet

2965 - 3003 Sand, fine- to coarse-grained. Sandstone, fine- and medium-grained; trace. Dolomite as above, trace

3003 - 3085 Sand as above, angular(?) to rounded, frosted in part

3085 - 3095	Sand as above. Biotite, in part in green clayey matrix, heavy trace. Orthoclase, pink; trace. PRECAMBRIAN at 3092 feet
3095 - 3100	Orthoclase. Quartz. Biotite as above, heavy trace. Sand as above, trace
3100 - 3123	Orthoclase. Quartz. Plagioclase, minor. Biotite, heavy trace
	TD samples 3123 feet

Sandusky County — Ohio Oil Co. #1 Bruns
Woodville Township — Sample No. 305
Section 9-S — Elevation (G) 650 feet

Depth (ft)	
1902 - 1927	Limestone, very light-gray, light-brown, lithographic, fossiliferous (brachiopods). Limestone, medium-grayish-green, micrograined to medium-grained, argillaceous; grading into shale
1927 - 1932	Limestone, light- and medium-brown, very light-gray, lithographic
1932 - 1937	Limestone, light-gray, lithographic, argillaceous. Shale, medium-gray, calcareous; heavy trace
1937 - 1952	Limestone, light- and medium-brown, very light-gray, lithographic. Shale as above, trace
1952 - 1977	Dolomite, medium-brown, very finely to medium crystalline, slightly calcareous; very fine samples
1977 - 1982	Dolomite as above. Limestone, medium-brown, lithographic. Shale, light- and medium-green to grayish-green, silty, dolomitic. Sand, very fine- to medium-grained; rounded and frosted in part; trace
1982 - 1992	Dolomite, very light-gray, microcrystalline (dolosiltite), very sandy (very fine- and fine-grained sand), iron-stained; very fine sample. KNOX DOLOMITE at 1982 feet
1992 - 1997	Sandstone, fine-grained, dolomitic, very friable; very fine sample
1997 - 2007	Dolomite, very light-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand), iron-stained
2007 - 2037	Dolomite as above, white to very light gray
2037 - 2052	Dolomite as above, iron stained
2052 - 2057	Dolomite, very light-gray, microcrystalline (dolosiltite), sandy, iron-stained; grading into medium- and coarse-grained sandstone. KERBEL FORMATION at 2052 feet
2057 - 2062	Sandstone as above
2062 - 2067	Sand, medium- and coarse-grained
2067 - 2072	Sand, medium-grained
2072 - 2092	Sand, medium- and coarse-grained
2092 - 2122	Sand, fine- to coarse-grained; predominantly fine grained from 2097 to 2122 feet
2122 - 2142	Sandstone, very light-gray, very fine- and fine-grained, dolomitic, iron-stained
2142 - 2152	Sandstone as above, very fine grained
2152 - 2157	Sandstone as above, light brownish gray in part
2157 - 2167	Sandstone, light-brownish-gray, very fine- to coarse-grained (predominantly fine), slightly dolomitic, iron-stained
2167 - 2172	Sandstone, very light-brownish-gray, fine-grained; laminations of dolomitic silty dark-gray shale
2172 - 2187	Sandstone as above, slightly glauconitic, shaly laminations as above. CONASAUGA FORMATION at 2172 feet
2187 - 2192	Sandstone, light-grayish-brown, very fine-grained, dolomitic, silty; glauconitic in part; grading into siltstone; shaly laminations as above
2192 - 2207	Sandstone and siltstone as above, very light gray in part
2207 - 2232	Sandstone and siltstone as above, argillaceous in part
2232 - 2247	Sandstone, very light-pinkish-gray, fine-grained, very slightly glauconitic, siliceous, friable; some medium-grained sand
2247 - 2257	Sandstone, light-pinkish-gray, fine- and medium-grained, friable; very slightly glauconitic from 2252 to 2257 feet
2257 - 2262	Dolomite, very light-gray, microcrystalline (dolosiltite); 60%. Sandstone as above, fine grained, 40%. ROME FORMATION at 2260 feet
2262 - 2267	Dolomite as above, sandy (very fine- to medium-grained sand); very fine sample
2267 - 2302	Dolomite as above, very sandy, grading into sandstone; very fine sample
2302 - 2307	Sandstone, medium-grained, dolomitic, very friable; some coarse-grained sand
2307 - 2317	Sandstone, fine- and medium-grained, very friable
2317 - 2332	Sandstone, predominantly fine-grained, very friable
2332 - 2342	Sandstone, light-brownish-gray and very light-pinkish-gray, very fine- to medium-grained, poorly sorted
2342 - 2352	Sandstone, very light-pinkish-gray, very fine-grained
2352 - 2357	Sandstone as in sample from 2332 to 2342 feet. Shale, medium-brownish-gray to greenish-gray, silty; heavy trace
2357 - 2367	Sandstone as above, very slightly glauconitic
2367 - 2377	Sandstone, very light-pinkish-gray, predominantly fine-grained, very friable
2377 - 2382	Sandstone as above, very light gray
2382 - 2392	Sandstone, very light-pinkish-gray, light-brownish-gray, predominantly fine-grained, slightly glauconitic
2392 - 2397	Sandstone, very light-gray, very fine- and fine-grained
2397 - 2412	Sand, fine- and medium-grained; fine grained from 2402 to 2412 feet
2412 - 2437	Sandstone, very light-gray, pinkish-gray, fine-grained; fine and medium grained from 2427 to 2437 feet
2437 - 2442	Sand, fine- to coarse-grained; 70%. Dolomite, very light-gray, brownish-gray, microcrystalline (dolosiltite), sandy; 30%
2442 - 2447	Sand, fine- and medium-grained; 70%. Dolomite as above, 30%
2447 - 2452	Sandstone, very light-pinkish-gray, fine- and medium-grained. Dolomite as above, heavy trace
2452 - 2462	Sandstone as above, fine grained. Dolomite as above, heavy trace
2462 - 2467	Sandstone as above, fine and medium grained, 80%. Dolomite, very light-grayish-brown and brown, microcrystalline (dolosiltite), sandy; 20%
2467 - 2477	Sandstone, very light-pinkish-gray, fine- to coarse-grained; 70%. Dolomite as above, 30%
2477 - 2487	Sandstone as above, very friable. MT. SIMON SANDSTONE at 2477 feet
2487 - 2512	Sandstone, very light-pinkish-gray, fine- and medium-grained, very friable
2512 - 2522	Sandstone as above, some coarse grains
2522 - 2527	Sandstone, very light-pinkish-gray, fine- and medium-grained, very friable
2527 - 2532	Sandstone as above, fine to coarse grained
2532 - 2552	Sandstone as above. Dolomite, light-brownish-gray, microcrystalline (dolosiltite), sandy; trace
2552 - 2562	Sandstone, light-pinkish-gray, very fine- and fine-grained, very friable
2562 - 2597	Sandstone as above, fine to coarse grained

2597 - 2612 Sandstone, very light-gray, predominantly coarse-grained, very friable
2612 - 2617 Sandstone, very light-gray and pinkish-gray, fine- and medium-grained, very friable
2617 - 2632 Sandstone as above, fine to coarse grained
2632 - 2652 Sandstone as above, predominantly coarse grained
2652 - 2667 Sandstone, light-pinkish-gray, fine- to coarse-grained, very friable
2667 - 2672 Granite, see McCormick (1961). PRECAMBRIAN at 2667 feet
2672 - 2822 Samples not described
TD samples 2822 feet

Sandusky County
Woodville Township
Section 36

Maguire #1 Kerbel
Permit No. 147
Sample No. 1853
Elevation (KB) 647 feet

Depth (ft)
2000 - 2040 Limestone, light- and medium-brown, lithographic; pelletal in part. Dolomite, medium-brown, very finely crystalline; trace
2040 - 2060 As above. Shale, medium-greenish-gray; trace. Chert, light-gray; trace
2060 - 2090 Dolomite, light-gray, yellowish-gray and light-brown, finely crystalline; very slightly glauconitic in part; some vuggy porosity; some light-green clay laminations. Sandstone, light-greenish-gray, very fine-grained; trace. KNOX DOLOMITE at 2051 feet (GRN)
2090 - 2100 Dolomite, light-yellowish-gray and light-brown to brownish-gray, finely crystalline, slightly sandy (subangular very fine- and fine-grained sand), slightly glauconitic
2100 - 2110 Dolomite, light-yellowish-gray to very light-brownish-gray, finely crystalline, sandy to very sandy; grading into sandstone. Sandstone, fine- to coarse-grained; 50%. KERBEL FORMATION at 2100 feet
2110 - 2150 Sandstone as above, medium and coarse grained, slightly glauconitic, grains rounded, frosted in part
2150 - 2160 Sandstone as above. Sandstone, very fine-grained; 20%
2160 - 2180 Sandstone, light-yellowish-gray, very fine-grained, dolomitic
2180 - 2190 Sandstone as above, slightly glauconitic (very fine glauconitic specks)
2190 - 2200 Sandstone, very light- and light-brown to brownish-gray, very fine-grained, slightly dolomitic, very slightly glauconitic
2200 - 2210 Sandstone as above, laminated with thin dark-brown shale partings
2210 - 2220 Sandstone as above. Dolomite, light-brown to grayish-brown, finely crystalline, sandy (very fine- to fine-grained sand); minor. Shale, dark-brown; heavy trace to trace
2220 - 2230 As above. Sandstone, micaceous and glauconitic to very glauconitic (fine- and medium-grained glauconite pellets); laminated with dark-brown shale partings. Shale, dark-brown, micaceous; trace. CONASAUGA FORMATION at 2220 feet
2230 - 2240 Siltstone, light-grayish-brown to dark-brown, slightly sandy (very fine sand), slightly dolomitic, micaceous, slightly glauconitic, argillaceous. Shale as above, heavy trace to trace
2240 - 2280 Siltstone as above, very glauconitic in part. Dolomite, light- and medium-grayish-brown, dense, finely crystalline, glauconitic, sandy (very fine- and fine-grained sand), argillaceous to very argillaceous; minor. Shale as above, heavy trace to trace
2280 - 2310 Sandstone, light-gray to brownish-gray, fine-grained, glauconitic to very glauconitic, dolomitic, micaceous. Dolomite, light-grayish-brown, finely and medium-crystalline, glauconitic; trace
2310 - 2350 Dolomite, very light-yellowish-gray, very light- and light-brown, pinkish in part, finely crystalline, oolitic, pelletal; in part sandy (fine- and medium-grained sand). ROME FORMATION at 2308 feet (GRN)
2350 - 2370 Dolomite as above, sandy to very sandy (rounded fine- to coarse-grained sand)
2370 - 2390 Dolomite as above, very sandy. Sand, fine- to coarse-grained, rounded; frosted in part; 40%
2390 - 2410 Sandstone, light-brownish-gray, fine-grained, dolomitic
2410 - 2420 Sand, fine- and medium-grained, (predominantly fine), angular to rounded; much secondary growth
2420 - 2430 No sample
2430 - 2500 Sand as in sample from 2410 to 2420 feet
2500 - 2510 Sand as above, some pink grains. Sandstone, fine- and medium-grained; pink siliceous cement; trace
2510 - 2520 Dolomite, light- and medium-brown, very finely and finely crystalline, slightly sandy (very fine-grained sand)
2520 - 2530 Dolomite as above, in part dark brown, sandy. Sandstone, light-yellowish-gray and pink, fine- to coarse-grained; siliceous in part; dolomitic in part
2530 - 2550 Sandstone as above. Sand, fine- to coarse-grained, angular to rounded; frosted in part. Dolomite as above, trace. MT. SIMON SANDSTONE at 2530 feet
2550 - 2560 Sandstone and sand as above. Dolomite as above, very sandy in part, 20%
2560 - 2590 Sandstone and sand, fine- and medium-grained, angular to rounded; frosted in part; few coarse grains
2590 - 2600 Sand and sandstone as above. Dolomite, light- and medium-brown, dense to finely crystalline, pelletal(?); slightly sandy in part; heavy trace
2600 - 2730 Sand and sandstone as above, most of sand fine grained, least coarse grained
2730 - 2735 Sand and sandstone as above. Biotite, trace
2735 - 2755 Sand as above. Abundant biotite, pink grains, green waxy clayey material (shale and chlorite?), arkose(?)
2755 - 2782 Angular mineral grains, colorless and pink, abundant biotite and muscovite, quartz, pyroxene, plagioclase; very fine sample. PRECAMBRIAN at 2760 feet (GRN)
TD samples 2782 feet

Scioto County
Green Township
French Grant Lot

USS Chemicals #1 Fee
Permit No. 212
Sample No. 2161
Elevation (KB) 557 feet

Depth (ft)
3850 - 3920 Limestone, very light-gray and light- and medium-brown, lithographic and micrograined. Dolomite, light-brown, microsucrosic; heavy trace
3920 - 3940 Dolomite, very light-brown, micrograined or microcrystalline, slightly microsucrosic, silty. Shale, dark-greenish-gray; heavy trace. Wells Creek Formation
3940 - 3950 No samples
3950 - 3960 As above. Limestone, light- and medium-brown, lithographic; minor
3960 - 3980 As above. Dolomite, very light-grayish-brown
3979 Dolomite as above, sandy. Sand, fine- and

	medium-grained, rounded and frosted; heavy trace. Circulation sample
3980 - 4000	No samples. KNOX DOLOMITE at 3988 feet (GRN)
4000 - 4010	Cavings, more than 90%. Dolomite, very light-brown, medium-crystalline. Chert, greenish-white; medium-sucrosic dolomite
4010 - 4040	Dolomite, very light-gray and light-brown, very finely sucrosic; some white chert in matrix. Cavings
4040 - 4050	Misplaced sample, Wells Creek lithology
4050 - 4070	Dolomite, light-brown and grayish-brown, microcrystalline (dolosiltite). Chert, white to colorless, oolitic; trace. Cavings
4070 - 4080	Dolomite, very light-brown, microcrystalline (dolosiltite) to very finely sucrosic. Chert, white; trace. Cavings
4080 - 4100	Dolomite as above. Chert, heavy trace
4100 - 4110	Dolomite as above. Chert, white; trace
4110 - 4160	Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to very finely sucrosic. Chert, white, oolitic; trace
4160 - 4170	Dolomite as above
4170 - 4210	Dolomite as above. Chert, white; trace
4210 - 4220	Dolomite, very light- and light-gray, brown, greenish-gray, microcrystalline (dolosiltite), sandy. Sand, very fine- and fine-grained, rounded and frosted; heavy trace. Shale, light- to medium-greenish-gray, sandy; heavy trace
4220 - 4230	Dolomite, very light-brown, microcrystalline (dolosiltite). Sand as above, trace. ROSE RUN sandstone at 4225 feet
4230 - 4242	Sand, fine- to coarse-grained (predominantly medium), rounded and frosted. Dolomite as above, heavy trace
4242 - 4260	No samples
4260 - 4290	Dolomite, very light-brown to grayish-brown, microcrystalline (dolosiltite) and very finely crystalline. Chert, white, oolitic; trace. Cavings
4290 - 4300	Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite), sandy (very fine- to coarse-grained sand); dark-green shale partings
4300 - 4310	Dolomite, very light- and light-gray, brown, grayish-brown, microcrystalline (dolosiltite) and very finely sucrosic, silty and sandy (very fine- to medium-grained sand). Cavings
4310 - 4320	Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline and sucrosic; sandy as above
4320 - 4340	Dolomite as above. Chert, white; fine and medium-sized dolomite crystals; heavy trace
4340 - 4350	Dolomite, very light-grayish-brown, microcrystalline (dolosiltite) and very finely crystalline. Chert as above, trace
4350 - 4360	Dolomite as above, microcrystalline to medium crystalline. Chert as above, heavy trace
4360 - 4370	Dolomite as above, sandy (rounded and frosted fine- and medium-grained sand)
4370 - 4400	Dolomite, very light-grayish-brown, microcrystalline and very finely crystalline and sucrosic
4400 - 4430	Dolomite, very light- to light-brown and grayish-brown, microcrystalline (dolosiltite). Chert, white, oolitic; trace
4430 - 4460	Dolomite, very light-brown to yellowish-brown, microcrystalline (dolosiltite)
4460 - 4480	Dolomite as above. Chert, white; trace
4480 - 4490	Dolomite as above. Dolomite, light-brown, very finely sucrosic. Chert, white; trace
4490 - 4510	Dolomite, light-brown, microcrystalline (dolosiltite)
4510 - 4520	Dolomite, very light-gray and light-brown, microcrystalline and very finely crystalline. Pyrite and marcasite, heavy trace
4520 - 4550	Dolomite, light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline. Chert, white; trace
4550 - 4610	Dolomite, very light- to dark-brown, microcrystalline (dolosiltite) and very finely crystalline
4610 - 4620	Dolomite as above, predominantly very light-brown, microcrystalline (dolosiltite)
4620 - 4660	Dolomite as above. Dolomite, very light-gray, microcrystalline (dolosiltite), silty; grading into siltstone; minor
4660 - 4670	Dolomite, very light- to medium-brown, microcrystalline (dolosiltite)
4670 - 4680	Dolomite, very light-grayish-brown, microcrystalline (dolosiltite). Chert, colorless, recrystallized; trace
4680 - 4700	Dolomite as above. Dolomite, very light-grayish-brown to medium-brown. Chert, very light-brown; trace
4700 - 4710	Dolomite as above. Chert as above, oolitic in part, heavy trace
4710 - 4720	Dolomite as above
4720 - 4740	Dolomite, very light- to dark-brown, microcrystalline (dolosiltite). Chert, white; brown oolites; heavy trace
4740 - 4750	Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite)
4750 - 4760	Dolomite, very light- to medium-brown and gray, microcrystalline (predominantly dolosiltite)
4760 - 4780	Dolomite, very light-gray and brownish-gray, medium-crystalline. Dolomite, light-gray, microsucrosic; heavy trace. Pyrite, trace
4780 - 4790	Dolomite as above, very light gray and brownish gray
4790 - 4800	Dolomite, very light-gray and brown and grayish-brown, predominantly microcrystalline (dolosiltite)
4800 - 4840	Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; in small part pelletal (medium-grained, grain-supported) from 4810 to 4840 feet
4840 - 4870	Dolomite, very light- to dark-brown, microcrystalline (dolosiltite) and very finely crystalline. Dolomite as above, pelletal. Many cavings from 4860 to 4870 feet
4870 - 4910	Dolomite, very light- to dark-brown, microcrystalline and very finely crystalline; in part pelletal. Chert, white and light-brown; oolitic in part; trace
4910 - 4920	Dolomite, very light-grayish-brown and light- to medium-gray, predominantly microcrystalline (dolomicrite)
4920 - 4960	Dolomite as above. Dolomite as in sample from 4870 to 4910 feet, pelletal and oolitic, some pinpoint porosity
4960 - 4990	Dolomite, very light-brown and very light- to light-gray, microcrystalline (dolosiltite), slightly pelletal and oolitic; sandy in part (rounded and frosted fine- and medium-grained sand)
4990 - 5000	Dolomite, very light- to light-grayish-brown, microcrystalline (dolosiltite), silty; grading into siltstone and trace of very fine-grained sandstone
5000 - 5050	Dolomite as above. Dolomite, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite)
5050 - 5070	Dolomite, light- to dark-brown, microcrystalline (predominantly dolomicrite); dark-brown dolomite argillaceous; grading into shale. CONASAUGA FORMATION at 5070 feet

5070 - 5090	Dolomite as above. Shale, dark-gray to brownish-gray, dolomitic; minor. Limestone, light-brown, lithographic; heavy trace
5090 - 5110	Shale, dark-gray to greenish-gray, dolomitic. Dolomite, medium-brown, microcrystalline; pelletal in part; minor
5110 - 5120	Shale as above. Siltstone, light-greenish-gray and very light-grayish-brown, micaceous, dolomitic; trace
5120 - 5160	Shale as above. Siltstone, very light-grayish-brown, micaceous. Dolomite, medium-brown, microcrystalline, pelletal; trace from 5140 to 5160 feet
5160 - 5170	Shale, dark-grayish-green and brownish-red
5170 - 5180	Shale as above. Dolomite, light- to dark-brown and very light-gray, very finely and finely crystalline; very silty in part; heavy trace
5180 - 5200	Shale, dark-greenish-gray. Dolomite as above
5200 - 5210	Shale, dark-greenish-gray and red. Dolomite, very light- to light-gray and grayish-brown, microcrystalline and very finely crystalline; needle-shaped fossil remains
5210 - 5220	Siltstone, very light- to medium-brown, slightly grayish, dolomitic, bioclastic, slightly glauconitic; grading into dolomite
5220 - 5230	No samples
5230 - 5240	Sandstone, very light- and light-brown, very fine-grained, dolomitic. Siltstone and dolomite as above, fossiliferous (brachiopod), minor. Dolomite, very light-gray, microcrystalline; trace. ROME FORMATION at 5219 feet (GRN)
5240 - 5250	Dolomite, light-yellowish-gray, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine- and fine-grained sand)
5250 - 5330	Dolomite as above. Dolomite, very light-brown
5330 - 5380	Dolomite as above, sand very fine to coarse grained
5380 - 5440	Dolomite as above, light-yellowish-gray, very light- to medium-brown
5440 - 5450	Dolomite as above. Sandstone, light-brown, very fine-grained, dolomitic; trace
5450 - 5480	Dolomite, light-yellowish-gray, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- to medium-grained sand)
5480 - 5500	Dolomite as above, very sandy
5500 - 5530	Dolomite as above, some medium-grained oolites. Sandstone, light-yellowish-gray, very fine- and fine-grained; trace
5530 - 5570	No samples (core)
5570 - 5595	Samples not in place
5595 - 5617	No sample (core)
	TD 5617 feet

Scioto County
Harrison Township
Section 17

Young & Henneberger #1
Will
Permit No. 202
Sample No. 1370
Elevation (DF) 923 feet

Depth (ft)	
3701 - 3715	Limestone, light-brown, lithographic, fossiliferous (ostracod); patches of microsucrosic dolomite
3715 - 3747	Limestone as above. Limestone, medium-brown. Limestone, dark-greenish-gray, lithographic, argillaceous; heavy trace
3747 - 3767	Dolomite, very light-brown, micrograined, silty; much silt-sized pyrite; dark-gray laminations. Limestone as above, minor. Wells Creek Formation
3767 - 3779	Dolomite as above, light gray in part
3779 - 3794	Dolomite, very light-gray to light-brown, micrograined, silty. Shale, dark-green; minor
3794 - 3808	As above. Dolomite, sandy (very fine-grained sand)
3808 - 3820	Sand, medium- and coarse-grained (predominantly medium), rounded and frosted, broken(?). Dolomite, very light-brownish-gray, microcrystalline (dolosiltite), very sandy. Sandstone, white to very light-gray, very fine- and fine-grained; trace
3820 - 3827	No samples
3827 - 3839	Dolomite, very light-grayish-brown, microsucrosic. KNOX DOLOMITE at 3823(?) feet (GRN)
3839 - 3850	Dolomite as above. Dolomite, light-brown, microcrystalline (dolomicrite). Chert, white; heavy trace
3850 - 3865	Dolomite as above, sandy (very fine- and fine-grained sand), pyritic. Pyrite, heavy trace. Sandstone, very light-greenish-gray, very fine- to medium-grained; trace
3865 - 3880	Dolomite, very light-brown and grayish-brown, very finely and finely sucrosic
3880 - 3909	Dolomite as above, light brown in part
3909 - 3917	Dolomite, very light- to medium-brown, very finely and finely sucrosic; sandy in part (very fine- to medium-grained sand). ROSE RUN sandstone at 3909 feet
3917 - 3923	Dolomite, very light-gray and brown, very finely crystalline, sandy (rounded and frosted fine- and medium-grained sand). Chert, white, colorless; dolomite crystals; heavy trace. Very fine sample
3923 - 3932	Dolomite as above, very sandy. Sand, 15-20%
3932 - 3938	Dolomite as above. Sand, fine- and medium-grained, rounded; frosted in large part; 50%
3938 - 3945	No samples
3945 - 3957	Sand as above
3957 - 3960	Sand as above. Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite)
3960 - 3964	Sand as above, predominantly fine grained. Dolomite as above, minor
3964 - 3975	Sand, fine- and medium-grained, rounded, frosted
3975 - 3979	Sand as above, fine to coarse grained
3979 - 3982	Sand as above. Dolomite, very light-brown, microcrystalline (dolosiltite); minor. Rusty sample
3982 - 3985	Sand, fine- and medium-grained, rounded and frosted; broken(?) in part. Chert, white; heavy trace. Rusty sample
3985 - 4000	As in sample from 3979 to 3983 feet, rusty to very rusty sample
4000 - 4016	Sand, fine- to coarse-grained (predominantly medium), predominantly rounded and frosted
4016 - 4025	Sand as above. Shale, medium-grained; trace
4025 - 4035	Sand, predominantly fine-grained
4035 - 4053	Sand, predominantly medium-grained, rounded and frosted. Dolomite, light-gray, microcrystalline (dolosiltite), sandy; heavy trace
4053 - 4084	Sand, fine- and medium-grained, broken, rounded and frosted. Dolomite, light-gray, microcrystalline (dolosiltite); trace
4084 - 4093	As above. Chert, white, oolitic, sandy; trace
4093 - 4100	Sand as above. Dolomite, light-gray, microcrystalline (dolosiltite), sandy; heavy trace
4100 - 4108	Sand as above. Dolomite, light-gray and grayish-brown, microcrystalline (dolosiltite)
4108 - 4129	No samples
4129 - 4131	Sand, fine- and medium-grained, broken, rounded and frosted. Dolomite, light- and medium-gray, microcrystalline (dolosiltite); trace. Shale, medium-green; trace
4131 - 4140	Dolomite, very light-brown, microcrystalline (dolosiltite). Chert, very light-brown and white; oolitic in part; trace
4140 - 4144	No samples

4144 - 4146	Sand, fine- and medium-grained, rounded and frosted. Dolomite, light-gray, microcrystalline (dolosiltite); trace. Rusty sample
4146 - 4150	Sand as above. Dolomite, very light-gray and brown, microcrystalline (dolosiltite) and very finely sucrosic
4150 - 4156	As in sample from 4144 to 4146 feet
4156 - 4161	As above, coal in sample
4161 - 4166	As above. Dolomite, heavy trace
4166 - 4173	Sand as above. Dolomite as above. Coal. Rusry sample
4173 - 4181	Dolomite, very light-gray, microcrystalline (dolosiltite)
4181 - 4190	No samples
4190 - 4200	Dolomite as above, very light brown
4200 - 4202	No samples
4202 - 4209	Dolomite as above. Chert, white; trace
4209 - 4222	Dolomite as above
4222 - 4258	Dolomite as above. Chert, white; trace
4258 - 4269	Dolomite, light-brown, very finely crystalline. Chert, white; trace
4269 - 4275	Dolomite as above, very light gray
4275 - 4283	Dolomite, very light- to light-brown, microcrystalline (dolosiltite)
4283 - 4287	Dolomite as above, very light gray in part. Chert, white; trace
4287 - 4320	Dolomite as above
	TD samples 4320 feet

Seneca County
Adams Township
Section 31

Ashland Oil & Refining Co. #1 Stigamire
Permit No. 128
Sample No. 1576
Elevation (KB) 796 feet

Depth (ft)	
2350 - 2360	Limestone, light-brown, lithographic to coarse-grained
2360 - 2370	Limestone, very light-grayish-brown and light-brown, lithographic to fine-grained
2370 - 2380	No sample
2380 - 2390	Limestone, very light-grayish-brown, light- and medium-brown, lithographic to fine-grained. Dolomite, medium-brown, microcrystalline (dolosiltite) and very finely crystalline; trace
2390 - 2420	Limestone as above. Dolomite as above
2420 - 2430	Dolomite, very light- and light-gray to greenish-gray, microcrystalline (dolosiltite), silty, slightly glauconitic. Limestone and dolomite as above, minor. Shale, light-green; very dolomitic in part; trace. KNOX DOLOMITE at 2427 feet (GRN)
2430 - 2440	Siltstone, very light- to light-brown, light-gray, slightly glauconitic, slightly dolomitic to very dolomitic. Dolomite, light-brown, brownish-gray, microcrystalline, slightly glauconitic; silty in part. Shale as above, trace
2440 - 2460	As above, predominantly dolomite
2460 - 2470	Dolomite as above. Shale as above, trace
2470 - 2480	Dolomite as above
2480 - 2500	Dolomite, very light-grayish-brown, very light- and light-brown, microcrystalline (dolosiltite); silty and slightly glauconitic in small part
2500 - 2520	Dolomite, very light-grayish-brown, light-brownish-gray, microcrystalline (dolosiltite)
2520 - 2560	Dolomite, light-yellowish-gray and very light-brown, microcrystalline (dolosiltite), silty, sandy (very fine-grained sand)
2560 - 2570	Dolomite, light-yellowish-gray, very light-brown, microcrystalline (dolosiltite), sandy (medium- and coarse-grained sand). KERBEL FORMATION at 2560 feet
2570 - 2590	Dolomite as above, very sandy (fine- to coarse-grained sand)
2590 - 2600	Sandstone, light-yellowish-gray, fine-grained, dolomitic; some medium- and coarse-grained sand
2600 - 2610	Sandstone as above. Siltstone, light-brown, dolomitic, sandy (very fine-grained sand)
2610 - 2620	Sandstone as in sample from 2590 to 2600 feet
2620 - 2630	As in sample from 2600 to 2610 feet
2630 - 2640	Sandstone, light-yellowish-brown, light-brown and grayish-brown, very fine- and fine-grained, dolomitic; silty and slightly glauconitic in part
2640 - 2650	Sandstone, light-brown, very fine- and fine-grained, dolomitic, slightly fossiliferous. Shale, dark-brown; trace
2650 - 2660	Sandstone as above. Siltstone, light-gray and medium-brown, dolomitic, glauconitic. Shale, dark-brown; trace. CONASAUGA FORMATION at 2650 feet
2660 - 2670	Siltstone, very light- to medium-brown, sandy (very fine- and fine-grained sand), slightly glauconitic, dolomitic to very dolomitic. Shale, medium- and dark-brown, medium-gray; very dolomitic in part; heavy trace
2670 - 2680	Sandstone, very light-brown, very fine-grained, slightly dolomitic, slightly glauconitic. EAU CLAIRE tongue
2680 - 2690	Sandstone as above, fine grained in part
2690 - 2720	Sandstone as above, light grayish brown
2720 - 2730	Sandstone as above. Dolomite, very light-brown and light-yellowish-gray, microcrystalline (dolosiltite) to finely crystalline; trace. ROME FORMATION at 2730 feet (GRN)
2730 - 2740	Dolomite as above, slightly sandy in part (very fine- to coarse-grained sand). Sandstone, light-brown, very fine- and fine-grained, dolomitic; trace. Pyrite, trace
2740 - 2750	Dolomite as above, in small part pelletal (fine-grained, grain-supported)
2750 - 2790	Dolomite as above, microcrystalline (dolosiltite). Sandstone, light-brown to pinkish-brown, very fine- and fine-grained, dolomitic; heavy trace
2790 - 2820	Sandstone, very light-pinkish-gray, very light-gray and brown, very fine- to medium-grained, dolomitic; grading into dolomite
2820 - 2830	Sandstone as above. Sand, very fine- to coarse-grained
2830 - 2840	Sandstone, very light-pinkish-gray, very light- and light-brown, light-grayish-brown, very fine- to coarse-grained; grading into dolomite
2840 - 2870	Sandstone, light-grayish-brown to brownish-gray, very fine- and fine-grained, dolomitic; some medium- and coarse-grained sand
2870 - 2880	Sandstone as above, very light brown in part; dark-gray and brown shale partings
2880 - 2890	Sandstone as above, much medium- and coarse-grained sand. Dolomite, light-yellowish-gray, light-brown, microcrystalline (dolosiltite), sandy
2890 - 2900	Dolomite, light-brown, microcrystalline (dolosiltite), very sandy (very fine- to medium-grained sand). Sandstone, light-pinkish-brown, very fine- and fine-grained, dolomitic; heavy trace
2900 - 2920	As above, dolomite grading into sandstone
2920 - 2940	Dolomite, light-brown, microcrystalline (dolosiltite), sandy; pelletal and oolitic in part; grading into fine- and medium-grained sandstone
2940 - 2950	Dolomite as above. Sandstone, light-pinkish-brown, fine-grained; heavy trace
2950 - 2960	Dolomite, very light- to dark-brown, light- and medium-grayish-brown, microcrystalline, pelletal, sandy to very sandy (very fine- and fine-grained sand). Sandstone, light-brown

and pinkish-brown, very fine- and fine-grained, dolomitic; trace

2960 - 2970 Dolomite as above. Sandstone, light-pinkish-brown, pinkish-gray, colorless, fine- to coarse-grained

2970 - 2980 As above, predominantly sandstone

2980 - 2990 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), very sandy; pelletal and oolitic in part; grading into sandstone. Sandstone, very fine- and fine-grained; some medium-grained sand. Sandstone, very light-pinkish-gray, light-pinkish-brown, very fine- and fine-grained; some medium- and coarse-grained sand; heavy trace

2990 - 3010 As above, predominantly dolomite grading into sandstone

3010 - 3020 Dolomite, light-brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand); pelletal and oolitic in part. Sandstone, pink and pinkish-brown, very fine- and fine-grained; some medium- and coarse-grained sand; minor

3020 - 3040 Dolomite as above. Sandstone as above

3040 - 3100 Sandstone, pink, very light-grayish-brown to light-brown, very fine- to coarse-grained (predominantly very fine- and fine-grained); dolomitic in part. MT. SIMON SANDSTONE at 3040 feet (very gradational contact)

3100 - 3120 Sandstone as above, very fine to very coarse grained, poorly sorted

3120 - 3130 Sand, coarse- and very coarse-grained. Sandstone as above, minor

3130 - 3140 Sand, coarse-grained. Sandstone, pink and pinkish-yellow, very fine- to medium-grained, arkosic

3140 - 3160 Amphibolite, chlorite(?), minor biotite. Sand and sandstone as above, trace. PRECAMBRIAN at 3140 feet

3160 - 3170 As above, cavings

3170 - 3174 As in sample from 3140 to 3160 feet

TD samples 3174 feet

Shelby County
Perry Township
Section 24

Sun Oil Co. #1 Nelson
Permit No. 12
Sample No. 687
Elevation (DF) 1050 feet

Depth (ft)

1700 - 1733 Limestone, light- and medium-brown, and very light-brownish-gray, lithographic and sublithographic, slightly fossiliferous; numerous bird's-eye structures

1733 - 1767 Limestone, medium-brown; microcrystalline dolomite in matrix of calcite dolomicrite. Limestone as above, minor

1767 - 1787 Limestone as above, pyritic. Shale, dark-green to grayish-green

1787 - 1803 Shale, light-green, silty, sandy (very fine-grained sand); grading into dolomite. Dolomite, very light-grayish-brown, micrograined, silty. Sandstone, light-greenish-gray, very fine- and fine-grained, argillaceous, silty

1803 - 1815 As above. Dolomite, light-brown, microcrystalline (dolosiltite), silty, sandy

1815 - 1827 Dolomite, white and very light-gray, finely and medium-crystalline, slightly pyritic; minor pinpoint porosity; patches of light-green clay. Shale as above. KNOX DOLOMITE at 1822 feet (GRN)

1827 - 1836 Dolomite as above, very light yellowish brown. Dolomite, light-brown, slightly grayish, microcrystalline (dolosiltite)

1836 - 1845 Dolomite as above. Chert, white; in part transparent; with pseudomorphs after calcite or dolomite

1845 - 1855 Chert as above. Dolomite, medium-brown, with ghost pellets or oolites, finely crystalline

1855 - 1867 Dolomite as above(?). Chert as above, minor. Very fine sample

1867 - 1882 Dolomite as above, very light to medium brown. Chert as above, trace

1882 - 1900 Bentonite and limestone cavings. Dolomite, yellowish-gray, light-gray, and light-grayish-brown, microcrystalline (dolomicrite)

1900 - 1914 Dolomite, light-brown and grayish-brown, microcrystalline (dolosiltite), slightly silty. Chert, white; trace. Shale cavings

1914 - 1927 Dolomite as above, light brown, nonsilty

1927 - 1970 Dolomite, light-brown and very light-yellowish-brown, microcrystalline (dolosiltite); some pellets(?)

1970 - 2051 Dolomite, very light- to medium-brown, microcrystalline to finely crystalline (dolosiltite). Pyrite, trace from 2002 to 2023 feet

2051 - 2068 Dolomite as above, finely crystalline

2068 - 2089 Dolomite as above. Dolomite, very light-brownish-gray, microcrystalline (microsucrosic)

2089 - 2097 Dolomite, very light-gray to medium-brown, microcrystalline (dolosiltite) to finely crystalline; numerous fine- to medium-grained oolites or pellets

2097 - 2114 Dolomite, very light-gray to light-brown, microcrystalline (dolosiltite). Dolomite, medium-brown, very finely and finely crystalline; minor

2114 - 2129 Dolomite as above. Dolomite, light- to medium-brown, microcrystalline (dolomicrite); minor

2129 - 2142 Dolosiltite and dolomicrite as above

2142 - 2210 As above, white to very light brown, predominantly dolosiltite

2210 - 2243 Dolomite, very light-grayish-brown to dark-brown, microcrystalline (dolosiltite); dark-brownish-gray shale laminations in part

2243 - 2253 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite); minor. Dolomite, very light-gray and brownish-gray, microcrystalline (dolomicrite and dolosiltite)

2253 - 2274 Dolomite, very light-grayish-brown to dark-brown, microcrystalline (dolosiltite); minor amount very finely crystalline; some poorly preserved coarse-grained oolites

2274 - 2290 Dolomite as above. Siltstone, very light-brownish-gray, dolomitic; minor

2290 - 2312 Siltstone as above, slightly pyritic and glauconitic

2312 - 2316 As above, slightly micaceous

2316 - 2342 Siltstone very light-brownish-gray, fine-grained, slightly dolomitic to dolomitic, very slightly glauconitic

2342 - 2375 Dolomite, very light-brown to gray, microcrystalline (dolosiltite)

2375 - 2406 Sample of very fine-grained sand size

2406 - 2425 Dolomite as above

2425 - 2439 Dolomite, very light-grayish-brown to medium-brown, microcrystalline (dolomicrite and dolosiltite)

2439 - 2448 Dolomite as above, silty in part

2448 - 2455 Dolomite as above, slightly glauconitic and micaceous in part. Siltstone, very light-grayish-brown, dolomitic, slightly micaceous and glauconitic

2455 - 2464 Dolomite as above. Siltstone as above, trace

2464 - 2490 Dolomite, very light-brownish-gray to medium-brown, microcrystalline (dolosiltite), silty, glauconitic, slightly micaceous; grading into siltstone. Shale, dark-brownish-gray to greenish-gray, silty, glauconitic; as laminations in dolomite and siltstone. EAU CLAIRE FORMATION at 2464 feet

2490 - 2500 Siltstone, light- and medium-brown, slightly dolomitic and glauconitic. Shale, dark-brown-

	ish-gray; grading into micaceous dolomite; minor
2500 - 2520	As above. Limestone, very light-gray to light-brown, lithographic, fossiliferous; minor to heavy trace
2520 - 2526	Siltstone, very light- and light-brown, slightly dolomitic, slightly glauconitic, slightly micaceous
2526 - 2535	Siltstone as above, in part light gray. Dolomite, very light-gray and brown, bioclastic; minor
2535 - 2542	Siltstone as above, medium brown. Shale, medium-gray to greenish-gray
2542 - 2572	Siltstone, pinkish-yellow, light- and medium-brown, light-gray, very slightly glauconitic. Shale as above
2572 - 2585	Siltstone as above. Shale, dark-brownish-red, dark-gray to greenish-gray
2585 - 2595	As above, mostly shale
2595 - 2623	Siltstone as above. Shale as above. Dolomite, very light-gray, bioclastic(?), slightly glauconitic, silty; trace
2623 - 2660	As above, shale subequal to minor, siltstone glauconitic
2660 - 2675	As above, bioclastic(?) dolomite in part hematitic
2675 - 2707	Siltstone, pinkish-yellow, light-gray, very glauconitic. Shale, dark-gray to greenish-gray, brownish-red, glauconitic; heavy trace. Dolomite, white, bioclastic; trace
2707 - 2823	As above, shale predominantly brownish red
2823 - 2835	Siltstone as above. Sand, fine- and medium-grained, broken (rounded?); minor. Shale as above, heavy trace
2835 - 2845	Sand as above, in small part coarse grained. Siltstone, heavy trace
2845 - 2855	Siltstone as above. Sand as above, minor
2855 - 2866	Siltstone as above, nonglauconitic. Sandstone, very fine-grained; very glauconitic in small part
2866 - 2881	Sand, fine- and medium-grained, broken. Sandstone, light- and medium-gray, fine-grained, very glauconitic, argillaceous; shale partings
2881 - 2897	Sand as above. Sandstone, white, very fine-grained, slightly dolomitic; glauconite pellets; trace
2897 - 2908	Sand, fine-grained. Sandstone as above
2908 - 2919	Sand, fine- and medium-grained, broken. Sandstone as above, medium gray, argillaceous
2919 - 2939	Sand as above. Sandstone, white, pinkish-yellow. Sandstone, medium-gray, very fine-grained, argillaceous, very glauconitic
2939 - 2950	Sand as above. Sandstone, pinkish-yellow, very fine- and fine-grained
2950 - 2961	As above. Sandstone, light-gray, very fine-grained, glauconitic
2961 - 2969	As above. Sand, coarse-grained, subrounded and rounded; trace
2969 - 2990	Sand, fine- to coarse-grained (predominantly medium), mostly angular (broken). Sandstone as above, pink, trace
2990 - 3000	Sand as above. Sandstone, pinkish-yellow, very light- to medium-gray (argillaceous), very fine- to medium-grained, slightly glauconitic. Shale, dark-gray
3000 - 3021	Sand, very fine- to coarse-grained; broken in large part; coarse grains subrounded and rounded. Sandstone, pinkish-yellow, very fine-grained. MT. SIMON SANDSTONE at 3000 feet
3021 - 3096	Sand, fine- to coarse-grained, colorless and pink, angular (broken?) to rounded and frosted
3096 - 3128	Sand as above, very fine to coarse grained
3128 - 3140	Sand as above. See McCormick (1961, p. 51). PRECAMBRIAN at 3140 feet
	TD samples 3265 feet

Stark County
Lexington Township
Section 32

East Ohio Gas Co. #1
Frederick Comm.
Permit No. 1123
Sample No. 1990
Elevation (KB) 1122 feet

Depth (ft)	
	Samples above 7500 feet not examined
7500 - 7525	Limestone, light- and medium-brown, dense; pelletal(?) in part. Shale, light- and medium-gray to greenish-gray
7525 - 7530	Shale as above. Dolomite, light-brownish-gray to grayish-brown, dense to micrograined, slightly silty and argillaceous
7530 - 7540	Shale and limestone as above
7540 - 7545	Limestone as above. Shale as above, medium and dark gray to brownish gray in part
7545 - 7560	Shale, light- and medium-gray to greenish-gray, dolomitic
7560 - 7570	Shale as above. Siltstone, very light-brown to grayish-brown, dolomitic, slightly glauconitic, slightly sandy (angular very fine-grained sand). Sand, fine, rounded, frosted; trace
7570 - 7575	Shale and siltstone as above. Sand, fine- and medium-grained, subrounded and rounded; minor
7575 - 7585	Siltstone, very light-brownish-gray, dolomitic to very dolomitic, glauconitic
7585 - 7600	Dolomite, very light-brown and brownish-gray, dense and very finely crystalline, slightly glauconitic; earthy or oily look. Sand, fine-grained, rounded; trace. KNOX DOLOMITE at 7580 feet (GRN)
7600 - 7615	Dolomite as above. Sand, well-sorted, very fine- and fine-grained, subangular and subrounded; minor amount of rounded medium-grained sand. ROSE RUN sandstone
7615 - 7640	Sand as above, small amounts of dolomite as above
7640 - 7650	Sand as above, in part dolomitic
7650 - 7670	Dolomite, very light-brownish-gray to light-brown, very finely crystalline, sandy and silty
7670 - 7680	Dolomite as above, light yellowish gray in part
7680 - 7700	Dolomite as above, slightly glauconitic in part
7700 - 7720	Dolomite, very light-brownish-gray and yellowish-gray, very finely crystalline, silty and sandy (very fine- and fine-grained sand)
7720 - 7740	Dolomite as above, medium grayish brown in part
7740 - 7750	Sandstone, very light-grayish-brown, very fine- and fine-grained, very dolomitic, very slightly glauconitic
7750 - 7780	Dolomite, very light-brown to grayish-brown, microcrystalline and very finely crystalline, sandy (very fine- and fine-grained sand)
7780 - 7810	Dolomite as above, light yellowish gray and gray in part
	TD samples 7810 feet

Stark County
Marlboro Township
Section 17

Belden & Blake & Co. #1
Westfall Comm.
Permit No. 1081
Sample No. 1910
Elevation (KB) 1144 feet

Depth (ft)	
	Samples above 7200 feet not examined
7200 - 7250	Limestone, light- and medium-brown, fine-

grained, dense. Shale, dark-brownish-gray to greenish-gray; trace

7250 - 7260 Siltstone, light- and medium-grayish-green, dolomitic, pyritic, slightly argillaceous. Shale as above, minor

7260 - 7270 As above, siltstone light gray in part. Sand, fine- and medium-grained, subrounded and rounded, frosted; trace

7270 - 7280 Shale and siltstone as above. Sand, fine- to coarse-grained, subrounded and rounded, frosted; trace

7280 - 7290 Sand, fine- to coarse-grained, predominantly medium-grained, rounded, well-sorted. KNOX DOLOMITE at 7273 feet (GRN). ROSE RUN sandstone at unconformity

7290 - 7300 No sample

7300 - 7320 Shale cavings

7320 - 7340 Sandstone, silty, slightly dolomitic(?); very poor sample

7340 - 7360 Dolomite, light-yellowish-gray and brownish-gray, very fine- to fine-grained and very finely and finely crystalline(?); very poor sample

7360 - 7370 Dolomite as above

7370 - 7410 Dolomite as above(?), very poor sample

7410 - 7420 Dolomite as above(?), slightly glauconitic

7420 - 7430 Cavings

7430 - 7450 Dolomite, light-yellowish-gray and very light-brownish-gray, very finely and finely crystalline and very fine- and fine-grained, sandy (fine- and medium-grained sand, rounded in part)

7450 - 7460 Dolomite, light-gray, yellowish-gray, brown, very finely crystalline, sandy; grading into very fine-grained sandstone

7460 - 7500 Dolomite, light-yellowish-gray and yellowish-brown, very fine- and fine-grained and very finely and finely crystalline, sandy (very fine- to medium-grained sand)

7500 - 7510 Dolomite, light-yellowish-gray and brownish-gray, very fine- and fine-grained and very finely and finely crystalline, sandy, grading into fine-grained sandstone (angular grains). CONASAUGA FORMATION at 7504 feet (GRN)

7510 - 7520 Shale cavings

7520 - 7530 Dolomite as above, slightly sandy. Shale cavings. Poor sample

7530 - 7550 Dolomite as above, sandy (angular to rounded fine- to coarse-grained sand). Sand, heavy trace

7550 - 7580 Dolomite as above, very sandy, grading into sandstone. Sandstone, fine- to coarse-grained, poorly sorted; rounded grains

7580 - 7590 Very poor sample, shale cavings; as above(?)

7590 - 7610 Cavings

7610 - 7630 No sample

7630 - 7680 Siltstone, light-gray and medium-grayish-brown to dark-brown, dolomitic. Dolomite, light-yellowish-gray, very fine- and fine-grained and very finely and finely crystalline, sandy. ROME FORMATION at 7659 feet (GRN)

7680 - 7730 Dolomite, light-yellowish-gray and light-brown, fine- and medium-grained and finely and medium-crystalline, slightly sandy

7730 - 7760 Dolomite as above, very slightly glauconitic, pelletal in part. Sandstone, white, very fine- and fine-grained, dolomitic; minor

7760 - 7880 Dolomite, light-yellowish-gray and light-brown, very fine- and fine-grained and very finely and finely crystalline, sandy and silty. Siltstone, sandy, dolomitic; minor

7880 - 7920 Dolomite, light-yellowish-gray, light-brown, light-pink, very fine- and fine-grained and very finely and finely crystalline, slightly sandy and silty. Dolomite, with intercrystalline porosity; trace

7920 - 7940 Dolomite as above, pelletal(?)

7940 - 7961 Dolomite as above. Siltstone, dark-brown, sandy, dolomitic; trace

TD samples 7961 feet

Stark County
Sandy Township
Section 3

Texaco, Inc. #1 Rarric
Permit No. 2001
Sample No. 2289
Elevation (KB) 1045 feet

Depth (ft)

7650 - 7655 Limestone, light- to dark-brown, microcrystalline, dolomitic. Shale cavings

7655 - 7685 As above. Siltstone, light-grayish-green, dolomitic, argillaceous; heavy trace. Sand, fine-grained, rounded and frosted; trace

7685 - 7695 Dolomite, very light-brown, microcrystalline (dolosiltite) and very finely crystalline. Siltstone, very light-gray; trace. Shale and limestone cavings. KNOX DOLOMITE at 7682 feet (GR)

7695 - 7710 Dolomite, very light- and light-brown, very finely crystalline, slightly pyritic

7710 - 7725 Dolomite as above, very slightly glauconitic, nonpyritic

7725 - 7730 Dolomite as above, 80%. Sandstone, fine-grained, siliceous; 20%. Shale and limestone cavings. ROSE RUN sandstone at 7725 feet

7730 - 7735 Sandstone as above, slightly glauconitic, dolomitic in part, 50%. Dolomite, very light-gray, brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand); 50%

7735 - 7745 Dolomite as above, 70%. Sandstone as above, becoming fine- and medium-grained at 7740 feet, 30%

7745 - 7750 Dolomite as above, 95%. Sandstone as above, 5%

7750 - 7755 Sandstone, fine- and medium-grained, very friable; grains ranging from angular (broken?) to rounded and frosted, 60%. Dolomite as above, 40%. Chert, white; trace

7755 - 7760 Sandstone as above. Dolomite as above, trace

7760 - 7815 Sandstone as above

7815 - 7825 Cavings. Sandstone as above, trace

7825 - 7830 Cavings. Dolomite, very light-brown, microcrystalline (dolosiltite); trace

7830 - 7835 Dolomite as above, 70%. Sandstone, very fine- and fine-grained, very friable; 30%

7835 - 7845 Dolomite, very light-gray, brown, microcrystalline (dolosiltite), sandy; grading into sandstone as above. Base ROSE RUN sandstone at 7845 feet

7845 - 7850 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite)

7850 - 7860 Dolomite as above. Sandstone, fine- and medium-grained, friable; heavy trace (cavings?)

7860 - 7865 Dolomite as above

7865 - 7870 Cavings

7870 - 7875 Dolomite as above

7875 - 7890 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite); pelletal in part

7890 - 7895 Dolomite, very light-brown to brownish-gray, microcrystalline (dolosiltite)

7895 - 7905 Dolomite as above, light and medium brown in part, sandy (very fine- to medium-grained sand)

7905 - 7910 Dolomite, very light-brownish-gray, microcrystalline, sandy; grading into sandstone; 70%. Sandstone, very fine- to medium-grained, dolomitic; 30%

7910 - 7925 Dolomite, very light- to light-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand). Cavings predominant

from 7915 to 7925 feet

7925 - 7930 Dolomite as above, 60%. Sandstone, very fine- to medium-grained, dolomitic; 40%

7930 - 7935 Dolomite, very light-brown to light-yellowish-gray, microcrystalline (dolosiltite). Sandstone as above, trace

7935 - 7940 Dolomite as above, light brown

7940 - 7950 Dolomite, very light-brown, microcrystalline, sandy; grading into sandstone; 70%. Sandstone, very fine- to medium-grained, very friable; 30%

7950 - 7960 Dolomite, very light-brown to light-yellowish-gray, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand)

7960 - 7965 Sandstone, light-yellowish-gray, very fine- to medium-grained, predominantly medium-grained, very friable, dolomitic

7965 - 7985 Cavings

7985 - 7995 Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand). Cavings

7995 - 8000 Dolomite, very light-brown, microcrystalline (dolosiltite), sandy; grading into sandstone; 50%. Sandstone, predominantly medium-grained; 50%

TD samples 8000 feet

Tuscarawas County
Clay Township
T. 6 N., R. 2 W.
Lot 14, 2nd Quarter

Stocker & Sitler Oil Co.
#1 Mizer Unit
Permit No. 955
Sample No. 2036
Elevation (KB) 1161 feet

Depth (ft)

Core description

7647 Dolomite, light-gray, very finely and finely crystalline, very slightly glauconitic, sandy (fine- to medium-grained sand); irregularly laminated with greenish-gray shale

7648 Dolomite, light-grayish-brown to brownish-gray, very finely and finely crystalline; paper-thin lamina of green shale at top of core piece

7549(?) Sandstone, very light-gray, fine-grained, well-sorted; numerous irregular shaly laminae

7650(?)-7656 Dolomite, light-brown to gray, very finely and finely crystalline; numerous very small (up to 1 mm) vugs lined with dolomite crystals

7656 -7661(?) Dolomite, medium- and dark-brown, very finely crystalline; becoming light brown at 7660(?) feet; several irregular green and brown shaly laminae

7661(?)-7664(?) Sandstone, very light-grayish-brown to brownish-gray, fine- to coarse-grained, predominantly medium-grained, poorly sorted, dolomitic, slightly glauconitic, slightly siliceous; grains subangular and subrounded

7664 -7665 Dolomite, light-brown, medium-crystalline, very sandy. Sand, fine-grained, subangular; several thin green shale laminae possibly grading into dolomitic sandstone

7665(?)-7665'2'' Dolomite, very light-gray; very sandy as above; much irregularly bedded green shale; some dolomite as blebs in the shale

7665'2''-7670(?) Siltstone, light-gray, very dolomitic; grading into very finely crystalline silty dolomite with burrow markings; several clusters of recrystallized white dolomite in top 1 ft; ½-inch layer of coarse white dolomite crystals at bottom of top 1 ft

7670(?)-7675(?) Sandstone, white, fine-grained, siliceous, glauconitic; several carbonaceous black streaks

7675(?)-7679(?) Dolomite, light-gray to light-brownish-gray, very finely to coarsely crystalline, sandy to very sandy (fine- to coarse-grained sand) poorly sorted; very glauconitic in part; several blebs of coarse white dolomite crystals; ½-inch seam of dark-green shale at about 7679(?) feet

7679(?)-7683(?) Dolomite, light-brown, very finely and finely crystalline; some bedding through different crystal sizes of dolomite; some pyrite in thin shale seams

7683(?)-7685(?) Dolomite, medium- and dark-brown, very finely crystalline; pelletal in part; some pinpoint porosity

7685(?)-7688 Dolomite, light-yellowish-gray to very light-grayish-brown, very finely and finely crystalline, sandy (very fine-grained sand)

Tuscarawas County
Rush Township
T. 6 N., R. 1 W.
Section 25

Stocker & Sitler Oil Co.
#2 Huebner Unit
Permit No. 1030
Sample No. 2073
Elevation (KB) 1221 feet

Depth (ft)

Samples above 7850 feet not examined
Very poor samples

7850 - 7875 Limestone, medium- and dark-brown, sublithographic. Limestone, dolomitic, very finely crystalline. Shale, medium- and dark-grayish-green to gray; trace

7875 - 7890 As above. Shale, dark-brown; heavy trace. Dolomite, light-grayish-brown, microcrystalline, argillaceous; trace

7890 - 7900 Siltstone, medium-grayish-green to very light-gray; argillaceous in part; sandy in part (very fine sand). Shale, medium-grayish-green, dolomitic

7900 - 7910 As above. Sand, medium-grained, rounded; trace

7910 - 7920 As above. Dolomite, light-brown, finely crystalline, slightly sandy (very fine-grained sand); trace. KNOX DOLOMITE at 7907 feet (GRN)

7920 - 7935 Misplaced sample; lithologies as in sample from 7890 to 7900 feet

7935 - 7945 As in sample from 7910 to 7920 feet. Dolomite, medium-brown, very fine-grained and crystalline, silty and sandy (very fine-grained sand); trace

7945 - 7960 As above. Sandstone, white, fine- and medium-grained, siliceous; trace

7960 - 7980 Dolomite, light-grayish-brown to medium-brown, very finely and finely crystalline; fine grained in part

7980 - 7985 Dolomite as above, light yellowish brown in part

7985 - 8030 Dolomite, light-brown and very light- and light-yellowish-brown, fine- and medium-grained, finely and medium-crystalline, slightly sandy (very fine-grained sand); light-yellowish-gray in part from 7995 feet

8030 - 8065 Dolomite as above. Sandstone, white and very light-gray to brownish-gray, very fine-grained, slightly dolomitic; trace

8065 - 8075 Dolomite as above. Sand, medium-grained, rounded

8075 - 8080 Shale cavings

8080 - 8085 Shale cavings. Sandstone, light-yellowish-gray, slightly dolomitic; trace

8085 - 8090 Shale cavings. Sandstone as above; heavy trace. Chert, white, sandy; trace

8090 - 8095 Shale cavings. Sandstone as above

8095 - 8105 Sandstone, white, fine- and medium-grained; dolomitic in part; sand grains rounded. Dolomite, light-gray to brownish-gray, very finely crystalline, slightly silty; minor
8105 - 8110 Sandstone as above. Dolomite, very light-yellowish-brown and light-brown to brownish-gray, very finely crystalline; sandy in part (fine-grained sand)
8110 - 8120 Shale cavings. Sandstone as above, trace. Dolomite, light-brown, microcrystalline; pinpoint porosity in part; trace
8120 - 8135 Sandstone, white, fine- and medium-grained, dolomitic. Dolomite, light-brown, dense to microcrystalline. Shale cavings abundant
8135 - 8140 As above. Sandstone, pyritic, slightly glauconitic; in part light gray
8140 - 8150 Sandstone, white and light-brownish-gray, fine- and medium-grained (predominantly fine). Dolomite, light-brown and brownish-gray, dense to microcrystalline; sandy in part; one piece of dolomite showing sharp contact with sandstone; minor
8150 - 8165 Mostly shale cavings. Sandstone as above
8165 - 8175 Dolomite, light-brown and medium-grayish-brown, finely crystalline; slightly glauconitic(?) in part. Sandstone, white and very light-gray, fine- and medium-grained. Sand, coarse-grained, rounded; trace
8175 - 8180 Sandstone as above. Dolomite, light-brown and very light-yellowish-gray to yellowish-brown, very finely crystalline. Sand as above, trace
8180 - 8195 Dolomite as above. Sandstone and sand, fine- to coarse-grained; grains rounded; minor to trace
8195 - 8205 Sandstone as above, trace. Dolomite, very light-gray, very finely crystalline; medium- and dark-brown pellets. ROME FORMATION
8205 - 8210 Dolomite as above. Dolomite, very light-gray, microcrystalline, slightly glauconitic; sandy in part (very fine- and fine-grained sand). Sandstone, white, fine-grained; trace
8210 - 8220 Dolomite and sandstone as above, very light gray. Dolomite as above, pelletal, trace
TD samples 8220 feet

Tuscarawas County
Sugar Creek Township
Section 22

XIT #1 Rowe
Permit No. 1145
Sample No. 2340
Elevation (KB) 1000 feet

Depth (ft)
6600 - 6620 Limestone, very light- to medium-brown, lithographic to fine-grained
6620 - 6650 Limestone as above, 60%. Shale, medium-gray and light-greenish-gray; 40%. Shale cavings
6650 - 6660 Samples out of place (Black River lithology)
6660 - 6670 Shale as above. Limestone as above. Sandstone, very light-gray, predominantly very fine- and fine-grained, siliceous, friable; some rounded and frosted medium-grained sand. KNOX DOLOMITE at 6661 feet (GRN), ROSE RUN sandstone at unconformity
6670 - 6690 Sandstone as above, very slightly glauconitic in part. Shale and limestone cavings
6690 - 6730 Sandstone as above, in small part grading into siltstone. Shale and limestone cavings
6730 - 6760 Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite); silty and sandy in part (very fine- and fine-grained sand); 60%. Sandstone as above, 40%. Cavings
6760 - 6790 Dolomite as above, slightly silty and sandy (very fine-grained sand)
6790 - 6810 Dolomite as above, sandy to very sandy (very fine- and fine-grained sand), grading into sandstone. Sandstone, 10%. Base ROSE RUN sandstone at 6798 feet (GR,D)
6810 - 6840 Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite); slightly sandy as above. Sandstone as above, trace
6840 - 6980 Dolomite as above, nonsandy to very slightly sandy

Union County
Union Township
VMSL 7474

H. H. & R. #1 Zenith Holding & Trading Corp.
Permit No. 2
Sample No. 937
Elevation (KB) 1001 feet

Depth (ft)
2020 - 2025 Limestone, light-brown, very light-brownish-gray, lithographic
2025 - 2030 Limestone, light- and medium-brown, very light-brownish-gray, light-greenish-gray (argillaceous), lithographic
2030 - 2035 Limestone, very light-brown, lithographic. Limestone, light-greenish-gray, micrograined, argillaceous
2035 - 2040 Limestone as above, very light brown. Dolomite, light-green and grayish-green, microcrystalline, very argillaceous; grading into shale
2040 - 2050 As above. Dolomite, very light-brown, microcrystalline and very finely crystalline
2050 - 2055 Shale, light- and medium-grayish-green, dolomitic, silty. Shale, dark-brown, slightly calcareous. Limestone, very light- and light-brown, white (chalky), lithographic
2055 - 2060 Shale, light- and medium-green and grayish-green. Dolomite, very light-gray to light-greenish-gray, microcrystalline (dolosiltite), silty; argillaceous in part
2060 - 2065 No sample
2065 - 2070 Shale, dark-brown, dolomitic; grading into dolomite. Shale as above. Dolomite, very light-brownish-gray to light-greenish-gray, microcrystalline (dolosiltite); silty in part
2070 - 2075 Dolomite, light-greenish-gray, microcrystalline (dolosiltite), argillaceous. Shale as above, green
2075 - 2080 As above, predominantly shale
2080 - 2085 Shale as above, very dolomitic. Dolomite, very light-brownish-gray to light-grayish-brown, microcrystalline and very finely crystalline, slightly sandy (very fine- and fine-grained sand). KNOX DOLOMITE at 2084 feet (GRN)
2085 - 2090 As above, sand in dolomite in part medium grained, rounded and frosted
2090 - 2095 Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite), slightly glauconitic
2095 - 2100 Dolomite as above, very light brown
2100 - 2105 Dolomite, very light- to medium-brown, microcrystalline and very finely crystalline (dolosiltite), sandy (very fine- to medium-grained sand), slightly glauconitic and pyritic
2105 - 2120 Dolomite as above, very light grayish brown and light brown
2120 - 2125 Dolomite, very light-grayish-brown and light-brown, microcrystalline (dolosiltite)
2125 - 2130 Dolomite as above, very light-brown and light-grayish-brown. Cavings
2130 - 2140 Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite)
2140 - 2145 Dolomite as above and white
2145 - 2155 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite)
2155 - 2170 Mud
2170 - 2200 No sample
2200 - 2210 Mud

2210 - 2215 Cavings
2215 - 2220 Dolomite, very light-brown, microcrystalline (dolosiltite)
2220 - 2240 Dolomite as above, microcrystalline (dolosiltite) and very finely crystalline, slightly glauconitic
2240 - 2275 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline
2275 - 2280 Dolomite as above, silty in part. Siltstone, very light-brownish-gray, glauconitic; trace. Top of "B zone"
2280 - 2285 No sample
2285 - 2290 As in sample from 2275 to 2280 feet. Cavings
2290 - 2300 No sample
2300 - 2325 Dolomite, very light-brown, very finely crystalline (one sample)
2325 - 2330 Dolomite as above
2330 - 2475 No sample
2475 - 2525 Dolomite, light-brown, very finely and finely crystalline. Cavings
2525 - 2570 Dolomite as above, very light to medium brown
2570 - 2610 Dolomite as above, slightly sandy (very fine- to medium-grained sand). KERBEL FORMATION at 2570 feet
2610 - 2615 No sample
2615 - 2625 Cavings. Dolomite as above
2625 - 2635 Dolomite, light-brown to yellowish-brown, microcrystalline, sandy, grading into sandstone. Sandstone, fine- to coarse-grained, predominantly medium-grained
2635 - 2640 Sandstone, very light-brown, predominantly fine-grained, dolomitic
2640 - 2645 No sample
2645 - 2650 Sandstone as above, light brown
2650 - 2655 No sample
2655 - 2665 Sandstone, light-brown, very fine-grained, slightly glauconitic, slightly dolomitic. Cavings. CONASAUGA FORMATION at 2655 feet
2665 - 2675 No sample
2675 - 2695 Sandstone, very light- and light-brown, very light-grayish-brown, predominantly very fine-grained, slightly glauconitic. Cavings
2695 - 2705 Sandstone, very light-brownish-gray and grayish-brown, very fine- and fine-grained, slightly dolomitic
2705 - 2715 Sandstone as above. Shale, dark-brownish-gray and brown, micaceous; heavy trace
2715 - 2720 Sandstone, very light-brown to pinkish-brown, very fine-grained, slightly glauconitic. Shale as above, heavy trace
2720 - 2725 Sandstone as above and light and medium brown
2725 - 2730 Sandstone as above, grading into dolomite in part, 50%. Shale, dark-greenish-gray; 50%
2730 - 2735 Shale, dark-greenish-gray and reddish-brown; 80%. Sandstone and dolomite as above, 20%
2735 - 2745 Shale, dark-grayish-green; 60%. Dolomite, very light-gray and yellowish-brown, microcrystalline (dolosiltite); 40%
2745 - 2750 As in sample from 2730 to 2735 feet
2750 - 2755 Shale as above, 50%. Sandstone and dolomite as above, 50%
2755 - 2765 Sandstone, very light- to medium-brown, very fine-grained, glauconitic; grading into dolomite; 60%. Shale, dark-grayish-green; 40%
2765 - 2770 Shale, medium-gray, dark-reddish-brown, grayish-green; 80%. Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolosiltite) to finely crystalline; 20%
2770 - 2780 Shale, dark-grayish-green and brown; 90%. Dolomite and limestone, medium-brown, bioclastic; 5% (may be Upper Ordovician cavings). Sandstone, very light-gray, light- and medium-brown, slightly glauconitic; 5%. Dolomite as above, very light gray, trace
2780 - 2785 Shale as above, 50%. Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline, sandy, slightly glauconitic; 50%
2785 - 2790 Shale, medium- and dark-gray to greenish-gray, reddish-brown, brown; 50%. Dolomite, very light-gray and very light- and light-brown, finely crystalline; 30%. Siltstone and very fine-grained sandstone, very light- to medium-brown, slightly glauconitic, slightly micaceous; 20%
2790 - 2810 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline; glauconitic in part. Siltstone and sandstone, very light-grayish-brown to medium-brown, very fine-grained, glauconitic, micaceous, 50% to trace. Shale as above, trace
2810 - 2840 Siltstone and very fine-grained sandstone, light- and medium-brown to grayish-brown, light-pinkish-brown, glauconitic, micaceous. Shale as above, trace
2840 - 2845 Cavings
2845 - 2855 Dolomite, light-yellowish-gray to light-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand). ROME FORMATION at 2831 feet (GRN)
2855 - 2865 Dolomite as above, very sandy in part, grading into sandstone
2865 - 2875 Dolomite, very light- and light-gray, mottled light- and medium-brown, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline, sandy (very fine- to coarse-grained sand); pelletal in part (fine- and medium-grained); grading into sandstone
2875 - 2880 Sandstone, light-brown, very fine- and fine-grained, dolomitic; grading into dolomite
2880 - 2885 Sandstone as above. Dolomite, very light-gray, very finely crystalline. Sand, medium-grained; heavy trace
2885 - 2890 Sandstone as above. Sand, medium- and coarse-grained. Dolomite as above, very light brown in part
2890 - 2895 Sandstone, light-brown, very fine- to coarse-grained (predominantly fine), dolomitic
2895 - 2900 Sandstone, very light-brown and pinkish-brown, very fine- and fine-grained, dolomitic; some medium-grained sand
2900 - 2905 Sandstone, very light- and light-brown, very fine-grained, dolomitic
2905 - 2915 Sandstone as above, grayish brown in part. Cavings
2915 - 2925 Sandstone as above
2925 - 2975 Sandstone as above, slightly glauconitic, pinkish brown in part
2975 - 2980 Dolomite, very light-gray and brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to medium-grained sand); 60%. Sandstone as above, 40%
2980 - 2985 Sandstone, very light-brownish-gray to gray, very fine- to coarse-grained (predominantly medium-grained), dolomitic, friable
2985 - 2990 Sandstone, very light-pinkish-brown, fine- to coarse-grained (predominantly coarse), dolomitic
2990 - 2995 Sandstone as above, 70%. Dolomite, very light-gray, microcrystalline, sandy (fine- to coarse-grained sand); grading into sandstone; 30%
2995 - 3005 Dolomite as above, very light brown in part, grading into sandstone
3005 - 3030 Sandstone as above, predominantly fine grained, dolomitic to very dolomitic
3030 - 3040 Sandstone as above, 60%. Dolomite, medium-brown, microcrystalline (dolosiltite) and very finely crystalline, pelletal (fine- and medium-grained), sandy (very fine- to medium-grained

sand); 40%

3040 - 3050 Dolomite as above, nonpelletal, sand very fine grained

3050 - 3055 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine- and fine-grained sand)

3055 - 3060 Dolomite, light- and medium-brown, microcrystalline (dolosiltite) and very finely crystalline, pelletal (very fine- to medium-grained), sandy (very fine- and fine-grained sand). Sandstone, light-pinkish-brown, very fine- and fine-grained; heavy trace

3060 - 3065 Dolomite as above. Dolomite, very light-brownish-gray to grayish-brown, very sandy (very fine- to coarse-grained sand); grading into sandstone

3065 - 3070 Dolomite as above, brownish gray to grayish brown

3070 - 3075 Sandstone, very light-brownish-gray, medium-grained, dolomitic, friable

3075 - 3080 Sandstone, very light-brownish-gray, yellowish-gray, predominantly fine-grained, dolomitic

3080 - 3090 Sandstone as above, very fine- to coarse-grained, friable

3090 - 3100 Sandstone, very light-grayish-brown, very fine- and fine-grained, dolomitic

3100 - 3115 Sandstone, very light-brown to pinkish-brown, very fine- and fine-grained; some medium- and coarse-grained sand

3115 - 3130 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand), oolitic (coarse-grained, mud-supported); 90%. Sandstone as above, 10%

3130 - 3135 Dolomite, light- to dark-brown, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand); some oolites and pellets; 70%. Sandstone, light-pinkish-gray, fine- and medium-grained; 30%

3135 - 3140 Sandstone, very light-brown, very fine- to medium-grained. Dolomite as above, heavy trace

3140 - 3145 Sandstone, very light- and light-brown, pinkish-brown, very fine- and fine-grained; some medium- and coarse-grained sand

3145 - 3150 Sandstone as above, 60%. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); some pellets; 40%

3150 - 3155 Dolomite as above. Sandstone as above, heavy trace

3155 - 3160 Dolomite as above, grading into sandstone

3160 - 3165 Dolomite and sandstone as above, 50%. Sandstone, light-pinkish-brown and pinkish-gray, fine- and medium-grained, siliceous; some coarse-grained sand

3165 - 3170 Sandstone as above, in part with black pellets, oolites, subrounded intraclasts; grading into dolomite

3170 - 3175 Sandstone, very light-grayish-brown, fine- and medium-grained, slightly dolomitic

3175 - 3180 Sandstone as above. Sand, fine to very coarse, rounded and frosted. MT. SIMON SANDSTONE at 3175 feet

3180 - 3190 Sand as above. Cavings

3190 - 3210 Sand as above, medium- and coarse-grained. Cavings

3210 - 3220 Sandstone, light-gray, brown and pinkish-brown, fine- and medium-grained

3220 - 3275 Sandstone, pink, very light-gray, fine- to coarse-grained. Sand, fine- to very coarse-grained

3275 - 3280 As above, predominantly fine-grained pink sandstone

3280 - 3290 Sand, fine- to very coarse-grained, conglomeratic. Sandstone as above, pink

3290 - 3305 Sand as above

3305 - 3310 Sand as above. Sandstone, pink, light-pinkish-gray, very fine- to coarse-grained

3310 - 3320 Sand, medium- to very coarse-grained, rounded, frosted

3320 - 3335 Sand, very fine- to very coarse-grained, angular to rounded and frosted

3335 - 3345 No sample

3345 - 3350 Sand as above. Orthoclase, pink

3350 - 3352 As above. Schist (brown mica predominant). PRECAMBRIAN at 3350(?) feet

Wayne County
Chippewa Township
Section 21

East Ohio Gas Co. #2
Steiner
Permit No. 71
Sample No. 2330
Elevation (KB) 960 feet

Depth (ft)

5870 - 5875 Shale, very dark-gray; 60%. Limestone, medium-brown, lithographic; 40%

5875 - 5885 Limestone, light- and medium-brown, lithographic. Limestone, white, lithographic, chalky; trace

5885 - 5890 Limestone, light- to dark-brown, lithographic; argillaceous in part

5890 - 5900 Shale, dark-greenish-gray. Limestone as above, 10%

5900 - 5905 Limestone, light- and medium-brown, lithographic and micrograined; 50%. Shale, medium-grayish-green; 50%

5905 - 5910 Dolomite, light-brown, microcrystalline (dolosiltite), slightly argillaceous, calcareous; 80%. Shale, medium- and dark-greenish-gray; 20%. Sand, medium-grained, rounded and frosted; trace

5910 - 5915 Shale, medium-greenish-gray, dark-brown

5915 - 5920 Shale, medium-grayish-green; 95%. Limestone, light-brown, gray, lithographic and micrograined; 5%

5920 - 5930 Siltstone, light-greenish-gray, slightly glauconitic, slightly dolomitic; 85%. Shale and limestone as above, 10%. Sand, fine- and medium-grained, rounded and frosted to angular (broken?); 5%

5930 - 5935 Sand, fine-grained, angular to subrounded; 50%. Dolomite, light-brown, microcrystalline (dolosiltite); 40%. Shale as above, 10%. KNOX DOLOMITE at 5934 feet (GRN)

5935 - 5940 Dolomite as above

5940 - 5945 No sample

5945 - 5950 Sand, fine- and medium-grained, subrounded

5950 - 5960 No sample

5960 - 5970 Sand as above. Sandstone, very light-gray, fine-grained. Dolomite, light-brown, microcrystalline; coarse grained below 5960 feet. Cavings

5970 - 5980 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), sandy (fine-grained sand). Shale, medium- and dark-gray and greenish-gray; cavings

5980 - 6000 Dolomite, light-yellowish-gray and very light- and light-brown, microcrystalline (dolosiltite); sandy to very sandy in part (fine- and medium-grained sand). Shale as above, red; cavings

6000 - 6030 Dolomite, very light-brown, microcrystalline (dolosiltite), very sandy (very fine-grained sand). Shale, medium-gray, greenish-gray, red and grayish-brown to brown; cavings

6030 - 6040 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Cavings as above

6040 - 6060 Dolomite, light-yellowish-gray to very light-brown, microcrystalline (dolosiltite). Cavings

as above

6060 - 6100 Dolomite, very light-grayish-brown and light-brown, microcrystalline (dolosiltite); grading into sandy (very fine-grained sand) siltstone. Cavings as above

6100 - 6110 Siltstone, very light- and light-gray, medium- and dark-brown, dolomitic; argillaceous in part. Shale as above, cavings. CONASAUGA FORMATION at 6100 feet

6110 - 6140 Siltstone, light- to dark-brown, dolomitic. Cavings as above

6140 - 6150 Siltstone as above. Sandstone, very light-greenish-gray, very fine-grained; trace. Cavings as above

6150 - 6160 Siltstone, very light-brownish-gray, dolomitic

6160 - 6170 Siltstone, very light-brownish-gray and gray; 50%. Dolomite, light-brown, microcrystalline (dolosiltite), silty; trace of pinpoint porosity; 50%. Cavings as above

6170 - 6180 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), silty. Siltstone, light-greenish-gray, argillaceous; trace

6180 - 6190 Shale, dark-brown to grayish-brown; 90%. Dolomite as above, very silty in part, 10%. Cavings

6190 - 6200 Siltstone, very light-brownish-gray to gray, dolomitic

6200 - 6210 Siltstone as above, light brown

6210 - 6220 Siltstone as above, pinkish in part, 50%. Dolomite, light- and medium-brown, microcrystalline (dolosiltite); 50%. ROME FORMATION at 6220 feet (GRN)

6220 - 6230 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), fossiliferous (one piece of brachiopod valve); trace of pinpoint porosity

6230 - 6240 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) to finely crystalline

6240 - 6260 Dolomite as above, pinkish in part, slightly sandy (fine- and medium-grained sand)

6260 - 6270 Dolomite as above, slightly glauconitic in part

6270 - 6280 Dolomite, light-yellowish-gray, very light- and light-brown, microcrystalline (dolosiltite)

6280 - 6290 Dolomite, light-yellowish-gray, very light- and light-brown, microcrystalline (dolosiltite), slightly sandy (fine-grained sand). Sandstone, medium-brownish-gray, fine-grained, glauconitic, dolomitic; trace

6290 - 6300 Dolomite as above, very sandy in part (predominantly very fine-grained sand)

6300 - 6310 Dolomite as above, 95%. Siltstone, light-gray, dolomitic; 5%

6310 - 6320 Dolomite as above (very fine- to medium-grained sand), grading into sandstone. Sandstone, heavy trace

6320 - 6330 Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite), oolitic (coarse-grained, grain-supported). Sandstone, very light-gray, very fine- and fine-grained; heavy trace

6330 - 6340 Sandstone, very light-gray and brownish-gray, very fine- to medium-grained (predominantly fine); 90%. Dolomite as above, 10%

6340 - 6350 Dolomite, very light-gray, very light- to medium-brown, microcrystalline (dolosiltite), pelletal (fine-grained), sandy (very fine- to medium-grained sand, predominantly fine-grained); grading into sandstone. Sandstone, heavy trace

6350 - 6360 Dolomite, very light-brownish-gray, grayish-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine-grained sand); pinkish in part

6360 - 6370 Dolomite as above, very sandy (very fine- to medium-grained sand)

6370 - 6390 Dolomite as above, microcrystalline (dolosiltite) to medium crystalline

6390 - 6430 Dolomite as above, sand predominantly very fine and fine grained

6430 - 6450 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine-grained sand); pinkish in part

6450 - 6480 Dolomite as above, very light and light brown; pelletal in part (fine-grained, grain-supported)

6480 - 6510 Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), pelletal (in part fine- and medium-grained, grain- and mud-supported)

6510 - 6530 Dolomite, very light-gray, very light- and light-brown, microcrystalline (predominantly dolomicrite)

6530 - 6540 Dolomite, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), pelletal (fine- and medium-grained, grain-supported); slightly sandy in part (very fine- and fine-grained sand); fine and medium grained in part

6540 - 6550 Dolomite as above, nonpelletal, slightly sandy (medium-grained sand)

6550 - 6560 Dolomite, very light- and light-gray, brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (fine-grained sand); in part fine to coarse grained

6560 - 6570 Dolomite, very light-gray and brownish-gray, microcrystalline (dolomicrite and dolosiltite), pelletal (very fine- to medium-grained, grain-supported)

6570 - 6580 Dolomite as above, light brown in part, sandy in part (fine-grained sand)

6580 - 6590 Dolomite, very light- to medium- and dark-gray, very light- and light-brown, microcrystalline (dolosiltite), slightly to very sandy (very fine- to coarse-grained sand, predominantly very fine- and fine-grained); pelletal and oolitic(?) in part

6590 - 6610 Dolomite, very light- and light-gray, brownish-gray, brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy, slightly pelletal and oolitic; very fine grained in part

6610 - 6620 Dolomite as in sample from 6580 to 6590 feet

6620 - 6630 Dolomite, medium- and dark-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand)

6630 - 6640 Dolomite, very light- to dark-brown, very light- and light-gray, microcrystalline (dolosiltite), sandy (predominantly very fine-grained sand); pelletal and oolitic in part

6640 - 6660 Dolomite as above, sandy to very sandy (very fine- to medium-grained sand)

6660 - 6690 Dolomite as above, grading into sandstone. Sandstone, 5%

6690 - 6750 Dolomite as above, light to dark brown; sand in dolomite very fine to coarse grained, predominantly very fine and fine grained

6750 - 6760 Dolomite as above, grading into fine- and medium-grained sandstone. Sandstone, 5%

6760 - 6770 Dolomite as above, fossiliferous, grading into fine- and medium-grained (predominantly fine) very light-brown and gray sandstone. Sandstone, 30%

6770 - 6790 Sandstone, light- and medium-brown, very fine- and fine-grained, dolomitic; 60%. Sandstone, colorless, fine- and medium-grained, siliceous; 40%. Dolomite as above, trace. MT. SIMON SANDSTONE at 6770 feet

6790 - 6800 Sandstone as above, some coarse grains

6800 - 6820 Sandstone, colorless, white, very light- to medium-brown, fine- to coarse-grained; in part siliceous; in part dolomitic. Dolomite

as above, trace
6820 - 6900 Sandstone as above, colorless, white, very light gray, brown, coarse grained in part
6900 - 6904 No sample
6904 - 6919 Biotite gneiss. PRECAMBRIAN at 6904 feet
TD samples 6919 feet

Wayne County
Wayne Township
Section 14

Great Lakes Gas Corp. #1
Drake
Permit No. 1419
Sample No. 1944
Elevation (KB) 1151 feet

Depth (ft)

Sample gap 3700-5800 feet
KNOX DOLOMITE at 5702 feet (GRN)
5800 - 5820 Dolomite, medium-brown, medium-grained, very finely crystalline. Dolomite, very light-brownish-gray, microcrystalline and very finely crystalline. More than 95% of sample shale cavings
5820 - 5840 Dolomite, very light-gray to yellowish-gray and very light-brown, very finely crystalline, sandy (very fine-grained sand). Cavings as above
5840 - 5850 Dolomite as above, silty. Siltstone, dark-brown, dolomitic. Chert, white; trace. Cavings as above
5850 - 5870 Dolomite, light-brown to brownish-gray, microcrystalline, silty. Cavings as above
5870 - 5890 Dolomite, light- and medium-brown and very light-brownish-gray, microcrystalline to very finely crystalline, silty. Chert, very light-brown; trace
5890 - 5920 Dolomite as above, silty, grading into siltstone. More than 70% of sample shale cavings. CONASAUGA FORMATION at 5890 feet
5920 - 5940 Siltstone, light-gray and brownish-gray to medium-gray, dolomitic. Shale, dark-brown to grayish-brown. Shale cavings
5940 - 5970 Dolomite, light-yellowish-gray and very light-brown, very finely and finely crystalline; in part medium grained. Shale cavings and shale as above
5970 - 5990 Siltstone, light-gray, very slightly dolomitic. Shale cavings and shale as above
5990 - 6000 Sandstone, light-gray and light-brown, silty, very fine-grained, dolomitic; very dolomitic in part. Shale cavings
6000 - 6010 Dolomite, light-brown and light-yellowish-gray, fine- and medium-grained, very finely and finely crystalline, sandy (very fine-grained sand), very slightly glauconitic. Shale cavings. ROME FORMATION at 5994 feet (GRN)
6010 - 6040 Dolomite as above, not sandy. Cavings
6040 - 6060 Dolomite as above, sandy (rounded fine- and medium-grained sand). Cavings
6060 - 6080 Dolomite as above, sand very fine grained. Cavings
6080 - 6100 No sample
6100 - 6110 Dolomite, very light-yellowish-gray to very light-yellowish-brown, very finely and finely crystalline, sandy (very fine- to medium-grained sand, degree of rounding increasing with grain size)
6110 - 6140 No sample
6140 - 6150 Dolomite as above, sand very fine to coarse grained. Shale cavings
6150 - 6160 Dolomite as above, very sandy. Shale cavings
6160 - 6180 Dolomite as above, grading into very fine- to coarse-grained sandstone. More than 90% of sample shale cavings
6180 - 6200 Dolomite and sandstone as above
6200 - 6210 As above, dolomite in part coarsely crystalline
6210 - 6240 Dolomite, light-brown, light-yellowish-gray to light-gray, finely to coarsely crystalline, slightly sandy (very fine- to fine-grained sand). Shale cavings
6240 - 6280 Dolomite, light-brown to light-yellowish-gray, very finely and finely crystalline. Shale cavings
6280 - 6320 Dolomite as above, sandy (very fine- and fine-grained sand). Cavings
6320 - 6330 Dolomite as above, in part medium and dark brown, medium grained, pelletal
6330 - 6340 As above? Cavings, 99%
6340 - 6350 Dolomite, light-yellowish-brown and light-grayish-brown, light-brown and gray, very finely and finely crystalline, sandy (very fine- and fine-grained sand); grading into sandstone
6350 - 6360 Dolomite, medium- and dark-brown, very finely crystalline, pelletal; medium and coarse grained in part. Dolomite and sandstone as above, minor
6360 - 6400 Dolomite as above, sandy, pelletal. Sandstone, light-gray, fine- to coarse-grained, poorly sorted; trace
6400 - 6420 Dolomite, light-yellowish-gray, light- and medium-brown and light-gray, very finely and finely crystalline, slightly pelletal; sandy in part (very fine- to fine-grained sand). Sandstone, light-yellowish-gray, fine-grained; trace
6420 - 6450 As above, dolomite not pelletal
6450 - 6480 Dolomite as above, sandy to very sandy (very fine- to coarse-grained sand). Sandstone as above, trace
6480 - 6490 Dolomite as above. Dolomite, medium- and dark-brown, medium-grained, very finely and finely crystalline, oolitic(?); trace
6490 - 6510 Dolomite, light-yellowish-gray, light-grayish-brown to dark-brown, medium-grained, very finely and finely crystalline, pelletal, sandy (angular to subrounded very fine- to medium-grained sand); grading into dolomitic sandstone
6510 - 6570 As above, dolomite in part oolitic
6570 - 6580 Dolomite, oolitic and pelletal as above. Dolomite, light-yellowish-gray, fine-grained, very sandy; grading into fine- and medium-grained sandstone
6580 - 6590 As above, sandstone in part poorly sorted and coarse-grained. MT. SIMON SANDSTONE at 6586 feet
6590 - 6610 Sandstone, light-yellowish-gray to very light-brownish-gray, fine- to coarse-grained, dolomitic
6610 - 6620 No sample
6620 - 6710 Sandstone, siliceous, friable. Sand, fine- to coarse-grained, subrounded and rounded, poorly sorted. Sandstone as above, minor
6710 - 6730 Sandstone as above. Granite wash, trace. Arkose, 6718(?) feet. PRECAMBRIAN at 6728(?) feet
6730 - 6897 Amphibolite?
TD samples 6897 feet

Williams County
St. Joseph Township
Section 21

Beglinger #1 Kennerk
Permit No. 34
Sample No. 1691
Elevation (DF) 842 feet

Depth (ft)
2503 - 2535 Limestone, very light-gray to medium-brown, predominantly lithographic, slightly fossiliferous (ostracods); dolomite crystals in patches
2535 - 2541 Limestone as above. Sand, fine- and medium-

	grained, angular to rounded and frosted; trace (in place?)
2541 - 2555	Limestone, very light-grayish-brown to light-brown, microcrystalline (microsucrosic); microcrystalline dolomite. Limestone as above. Sand as above, trace
2555 - 2569	Limestone as in sample from 2503 to 2535 feet. Shale, dark-gray; heavy trace
2569 - 2579	Limestone as above. Dolomite, very light-gray and light- to medium-brown, very finely and finely crystalline. Shale, dark-gray to black and dark-greenish-gray; trace. Sand as above, trace
2579 - 2585	Limestone as above. Sand as above, trace. Shale as above, trace. Dolomite as above, trace. KNOX DOLOMITE at 2574 feet (GRN)
2585 - 2594	As in sample from 2541 to 2555 feet
2594 - 2602	Dolomite, white, light-gray, light- and medium-brown, light-grayish-brown, microcrystalline and very finely crystalline (dolosiltite), slightly sandy (very fine-grained sand)
2602 - 2615	Dolomite, predominantly microcrystalline; white and light gray as above. Sand, very fine- to medium-grained, angular to rounded and frosted; heavy trace
2615 - 2625	Dolomite as above, white. Sand as above, fine grained
2625 - 2633	Dolomite, very light-brown to light-brownish-gray, microcrystalline (dolosiltite), sandy to very sandy; grading into very fine-grained sandstone. Dolomite as above, minor. Chert, white; trace
2633 - 2640	Dolomite as above. Dolomite, microcrystalline (dolomicrite), sandy (very fine- and fine-grained). Chert, white, sandy (very fine-grained sand), oolitic (very fine-grained); probably laminated; recrystallized in part; heavy trace. Shale, medium-green to grayish-green, slightly pyritic; slightly sandy in part (very fine-grained); trace
2640 - 2657	Dolomite, very light-brownish-gray to gray, microcrystalline(?), (dolosiltite?). Sand, very fine- to medium-grained, angular to rounded; heavy trace. Chert as above, trace. Very fine sample
2657 - 2674	Dolomite as above, finely crystalline in part. Sand, very fine to coarse, angular to rounded; heavy trace to trace
2674 - 2682	Dolomite, very light-brownish-gray, microcrystalline(?)(dolosiltite?). Sand as above, heavy trace. Very fine sample
2682 - 2706	As above. Dolomite, very light-gray
2706 - 2711	As above. Dolomite, light-brown to grayish-brown, microcrystalline (dolosiltite); minor
2711 - 2718	As in sample from 2674 to 2682 feet
2718 - 2752	Dolomite, very light-brownish-gray to light-brown, microcrystalline and very finely crystalline. Sand, very fine- and fine-grained, angular to rounded and frosted; trace. Shale, light-green; glauconitic in part; trace
2752 - 2780	Dolomite, very light-grayish-brown, microcrystalline (dolosiltite)
2780 - 2794	Dolomite as above. Dolomite, light-brown
2794 - 2819	Dolomite as above. Sand, very fine- and fine-grained, angular to rounded; heavy trace
2819 - 2827	Dolomite as in sample from 2752 to 2780 feet. Sand, very fine- to medium-grained, angular to rounded; trace
2827 - 2890	Dolomite as in sample from 2780 to 2794 feet. Sand as above, heavy trace. Chert, white; trace. Overburden
2890 - 2981	Dolomite, very light-brownish-gray, microcrystalline (dolosiltite?). Sand, very fine- to medium-grained, angular to rounded; minor. Chert, very light-gray; trace in streaks. Very fine sample
2981 - 3017	Dolomite as above. Sand as above, heavy trace. Very fine sample
3017 - 3052	Dolomite as above. Sand, very fine- and fine-grained; trace
3052 - 3083	Dolomite as above. Sand as above, minor
3083 - 3086	Dolomite as above. Sand as above, trace
3086 - 3113	Dolomite, very light- and light-grayish-brown, microcrystalline (dolosiltite), silty
3113 - 3123	Siltstone, light-gray, slightly dolomitic and glauconitic. Dolomite as above, minor
3123 - 3125	Dolomite, light-brown, microcrystalline (dolosiltite). Siltstone as above, minor
3125 - 3141	Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolosiltite), silty, slightly sandy (very fine- and fine-grained sand)
3141 - 3144	Dolomite as above, very silty. Siltstone, light- and medium-gray, slightly dolomitic and glauconitic; minor
3144 - 3149	As above. Dolomite, light- and medium-brown and light-gray (mottled), microcrystalline, pelletal (mud-supported), fossiliferous (or bioclastic, *cf.* #1 Wikoff, Stonelick Township, Clermont County, at 2500 feet); trace
3149 - 3151	Pelletal dolomite as above
3151 - 3164	Dolomite, very light- to light-brownish-gray, microcrystalline (dolosiltite), very silty. Pelletal dolomite as above, minor
3164 - 3184	Silty dolomite as above. Dolomite, light- and medium-brown, microcrystalline and very finely crystalline (dolosiltite matrix; some very fine crystals)
3184 - 3189	Dolomite as above. Siltstone, very light- and light-gray, slightly dolomitic, very slightly glauconitic. EAU CLAIRE FORMATION at 3178 feet (GRN)
3189 - 3193	Siltstone as above. Siltstone, light-brown, pinkish-brown, greenish-gray; glauconitic in part. Dolomite as above, minor
3193 - 3202	Siltstone as above. Siltstone, reddish-brown, micaceous; argillaceous in part
3202 - 3236	Siltstone as above, predominantly very light pinkish brown to very light brown, streaks of dark-gray shale
3236 - 3240	Siltstone as above. Sand, very fine- to medium-grained, angular to rounded; minor
3240 - 3245	Siltstone as above. Sand as above, trace
3245 - 3250	Siltstone as above
3250 - 3260	Siltstone as above. Sand as above, trace
3260 - 3271	Siltstone, light- and medium-gray to greenish-gray and light-brown to pinkish-brown, glauconitic. Dolomite, light- and medium-gray, very finely crystalline, silty, glauconitic; minor. Shale, medium-greenish-gray to dark-gray, very silty; heavy trace
3271 - 3276	As above. Sand, very fine- and fine-grained, angular to rounded and frosted; minor
3276 - 3298	Siltstone as above. Sand as above, minor. Shale as above, trace
3298 - 3303	Siltstone, light-brownish-gray, dolomitic, micaceous
3303 - 3317	Siltstone, medium-gray and greenish-gray and light-pinkish-brown, glauconitic; very dolomitic in part. Sand, fine-grained, angular to rounded and frosted; heavy trace
3317 - 3323	As above. Dolomite, light- and medium-gray and brown, very finely and finely crystalline, silty, glauconitic; probably bioclastic in part; minor
3323 - 3329	As above, predominantly dolomite
3329 - 3334	Siltstone as above. Dolomite as above
3334 - 3341	As in sample from 3323 to 3329 feet, very slightly glauconitic
3341 - 3350	Dolomite, very light- to medium-gray and brownish-gray, microcrystalline (dolosiltite), slightly glauconitic, silty. Shale, medium-

and dark-gray

3350 - 3367 As above. Siltstone, light-greenish-gray, slightly glauconitic; minor. Rust-stained sample

3367 - 3377 Siltstone as above. Shale as above, trace. Rust-stained sample

3377 - 3381 Siltstone, very light-gray to brownish-gray

3381 - 3397 Siltstone, very light- to medium-gray to greenish-gray, micaceous; glauconitic in part. Shale, dark-gray to greenish-gray; trace

3397 - 3428 Siltstone as above. Siltstone, light-pinkish-gray; argillaceous in part. Shale, dark-gray; in streaks

3428 - 3442 Siltstone as above. Shale as above, in streaks. Dolomite, light- to medium-gray, very light-pinkish-gray, microcrystalline and very finely crystalline, silty to very silty; slightly glauconitic and micaceous in part; heavy trace

3442 - 3454 Dolomite as above. Siltstone as above, minor

3454 - 3458 Siltstone, light- and medium-gray and brown, pink, very slightly glauconitic, micaceous; dolomitic in part. Dolomite as above, trace

3458 - 3462 Siltstone, very light-pinkish-gray to yellowish-gray, micaceous, very slightly glauconitic. Dolomite, white, very finely crystalline, hematitic, silty; minor

3462 - 3469 Siltstone as above

3469 - 3481 Siltstone as above. Siltstone, light- and medium-gray. Sand, fine-grained; heavy trace to 3477 feet

3481 - 3489 Siltstone as above. Hematitic dolomite as in sample from 3458 to 3462 feet, heavy trace

3489 - 3500 Siltstone as above, glauconitic to very glauconitic. Sand, very fine- to fine-grained; heavy trace

3500 - 3508 Sand, fine- to coarse-grained (predominantly medium), rounded; frosted in part

3508 - 3516 Siltstone, very light- and light-gray and greenish-gray, very glauconitic. Sand, fine- to coarse-grained (predominantly fine), angular to rounded and frosted

3516 - 3526 Siltstone, yellowish-gray to pinkish-gray, glauconitic, siliceous, sandy (very fine-grained sand). Sand, very fine- to medium-grained, predominantly angular (broken sandstone?)

3526 - 3549 Siltstone as above, light greenish gray. Sand as above

3549 - 3578 As above. Shale, reddish-brown; heavy trace to trace

3578 - 3585 Siltstone, light-yellowish-gray and pinkish-gray and light- and medium-greenish-gray, glauconitic to very glauconitic, sandy (very fine-grained sand). Shale, medium- and dark-gray and greenish-gray, reddish-brown

3585 - 3621 Siltstone as above. Sand, fine- to coarse-grained (predominantly medium), angular to rounded and frosted; minor. Shale as above, trace

3621 - 3628 Siltstone as above. Sand as above. Shale as above, trace

3628 - 3673 Siltstone, sandy. Sandstone, light-greenish-gray and yellowish-gray to pinkish-gray, silty, very fine- and fine-grained, glauconitic. Sand, fine- and medium-grained, angular (broken?). Shale, reddish-brown and medium- and dark-gray to greenish-gray; as laminations in siltstone and sandstone

3673 - 3691 As above, predominantly sandstone, white in part, and sand

3691 - 3730 Sandstone, white and very light-gray and light-yellowish-gray, very fine- and fine-grained, siliceous, silty. Siltstone, sandy, glauconitic; trace. MT. SIMON SANDSTONE at 3691 feet

3730 - 3796 Sand, fine- to coarse-grained (predominantly medium), angular (broken?) to rounded and frosted. Sandstone as above, heavy trace

3796 - 3846 Sand as above, predominantly pink and yellow

3846 - 3887 Sand as above, fine to very coarse grained (predominantly coarse)

3887 - 3892 Sand, pinkish-gray to colorless, fine- to coarse-grained (predominantly medium), angular (broken?) to rounded and frosted

3892 - 3919 Sand as above, fine to very coarse grained (predominantly medium)

3919 - 3931 Sand as above. Rhyolite. PRECAMBRIAN at 3922 feet?

Samples from 3931-4137 feet not examined
TD samples 4137 feet

Wood County
Center Township
Section 4

Kin-Ark Oil #1 Carter
Permit No. 237
Sample No. 1468
Elevation (KB) 672 feet

Depth (ft)

1930 - 1940 Limestone, medium-brown, lithographic

1940 - 1950 Dolomite, light-brown, microcrystalline (dolosiltite) to finely crystalline, slightly glauconitic. Siltstone, light-gray, glauconitic; heavy trace. Shale, light-green, silty; trace. KNOX DOLOMITE at 1944 feet (GRN)

1950 - 1970 Dolomite as above. Shale, very light-greenish-gray to gray; sucrosic dolomite; heavy trace

1970 - 2000 Dolomite, light-brown, very light-gray, very finely crystalline, slightly glauconitic. Shale, light-green; trace

2000 - 2010 Dolomite, light-brown, microcrystalline (dolosiltite); very poor pinpoint porosity

2010 - 2040 Dolomite as above, slightly glauconitic in part. Siltstone, light-gray, glauconitic; trace

2040 - 2060 Dolomite, light-brown, microcrystalline (dolosiltite); glauconitic in part; in part oolitic, pelletal, and pisolitic; some sparry dolomite between the clasts. Siltstone, very light-brownish-gray, glauconitic; heavy trace

2060 - 2080 Dolomite, very light-brownish-gray, finely to coarsely crystalline. Dolomite as above. Siltstone as above, trace

2080 - 2110 Dolomite, very light-brownish-gray and gray, microcrystalline (dolomicrite and dolosiltite); sandy in part (fine- and medium-grained sand)

2110 - 2120 Dolomite, very light-brown, microcrystalline (dolomicrite); slightly sandy in part (very fine- and fine-grained sand); poor pinpoint porosity

2120 - 2130 Dolomite, very light-brown, microcrystalline (dolomicrite), sandy (fine- to coarse-grained sand); oolitic, pelletal, and intraclastic in part (fine- to coarse-grained); glauconitic in part. KERBEL FORMATION at 2120 feet

2130 - 2140 Dolomite, very light-brown, very sandy (fine- to coarse-grained sand); oolitic, pelletal, and intraclastic as above

2140 - 2170 Sandstone, very light- and light-brown, dolomitic, very fine- and fine-grained; some medium- and coarse-grained sand

2170 - 2190 No sample

2190 - 2200 Sand, fine- to coarse-grained, angular to rounded and frosted (broken in part)

2200 - 2210 No sample

2210 - 2220 Sandstone, very light-grayish-brown to brownish-gray, very fine- and fine-grained, friable

2220 - 2230 No sample

2230 - 2240 Sandstone as above

2240 - 2250 Sandstone, light-grayish-brown and brownish-gray, very fine-grained, dolomitic, very slightly glauconitic; laminations of argillaceous light-grayish-brown siltstone

2250 - 2260 Sandstone as above, glauconitic, 90%. Shale, medium-grayish-brown, brown, dark-gray, silty to very silty, micaceous; 10%. EAU CLAIRE FORMATION at 2250 feet

2260 - 2270 Sandstone, very light- to medium-brown and brownish-gray, very fine- and fine-grained, glauconitic, micaceous, fossiliferous (brachiopod); dolomitic in part; 90%. Shale, medium-gray, brown, silty; 10%

2270 - 2280 Sandstone as above, 70%. Shale as above, 20%. Dolomite, light-brown, microcrystalline (dolosiltite), glauconitic, fossiliferous (brachiopod); 10%

2280 - 2290 Siltstone, light-grayish-brown, glauconitic, fossiliferous (brachiopod); 50%. Dolomite, light-brown, microcrystalline (dolosiltite) to medium-crystalline, fine- and medium-grained, very glauconitic, fossiliferous (brachiopod); 30%. Shale as above, 20%

2290 - 2310 Siltstone, light-brown, sandy (very fine-grained sand), glauconitic, slightly micaceous; 70%. Shale, light- and medium-gray; 30%. Dolomite as above, trace

2310 - 2320 Sandstone, light-pinkish-gray, fine-grained, glauconitic. Shale as above, trace

2320 - 2330 Sandstone as above, light grayish brown in part, very dolomitic in part

2330 - 2340 Dolomite, very light- to medium-brown, light-brownish-gray, microcrystalline (dolomicrite and dolosiltite), pelletal, sandy (fine- to coarse-grained sand); grading into sandstone; 70%. Sandstone as above, 30%. ROME facies at 2330 feet (GRN)

2340 - 2350 Dolomite as above. Sandstone as in sample from 2320 to 2330 feet, trace

2350 - 2360 As in sample from 2330 to 2340 feet. Interbedded ROME and EAU CLAIRE

2360 - 2370 Dolomite, very light- to medium-brown, microcrystalline (dolomicrite and dolosiltite), pelletal, oolitic, sandy (fine- to coarse-grained sand); in small part grading into sandstone; 90%. Sandstone, light-pinkish-gray to yellowish-gray, light-brown, silty, glauconitic, micaceous; 10%

2370 - 2400 Sandstone, very light-brown, medium- and coarse-grained (minor amount fine grained), dolomitic, friable

2400 - 2410 Sandstone, very light-brown, very fine-grained, dolomitic. Sand, fine- to coarse-grained

2410 - 2420 Sandstone, very light-brown, fine-grained; some medium- and coarse-grained sand

2420 - 2430 Sandstone, very light-brown to grayish-brown, very fine-grained; some fine- to coarse-grained sand. Shale cavings

2430 - 2460 Sandstone, very light-brown, very fine- and fine-grained, glauconitic; some medium-grained sand; 90%. Shale, medium-gray to greenish-gray; 10%

2460 - 2470 Sandstone, light-pinkish-gray to yellowish-gray, very fine- and fine-grained, glauconitic; shaly laminations

2470 - 2480 Sandstone as above, very glauconitic, shaly laminations

2480 - 2500 Sandstone, light-pinkish-gray to yellowish-gray, light-grayish-brown, very fine- to medium-grained, glauconitic to very glauconitic; some coarse-grained sand; 90%. Shale, medium-gray to greenish-gray, glauconitic; 10%

2500 - 2520 Sandstone, very light-brownish-gray, pinkish-gray, yellowish-gray, very fine- and fine-grained, glauconitic

2520 - 2530 Sandstone, very light- and light-brown, very fine- to coarse-grained; moderately sorted; some pink grains. Dolomite, light- and medium-brown, microcrystalline (dolomicrite), very sandy (very fine- and fine-grained sand); heavy trace

2530 - 2540 Sandstone as above, 50%. Dolomite as above, pelletal, very sandy (very fine- to coarse-grained sand), grading into sandstone, 50%

2540 - 2550 No sample

2550 - 2700 Sandstone, very light-brown, light-pinkish-gray to yellowish-gray, light-grayish-brown, very fine- to medium-grained, pelletal; some coarse-grained sand. Dolomite as above, trace to 2560. MT. SIMON SANDSTONE at 2550 feet

2700 - 2730 Sandstone as above, very fine to coarse grained

2730 - 2750 Sandstone as above, very fine to very coarse grained, conglomeratic at 2740 feet

2750 - 2790 Sandstone as above, predominantly coarse and very coarse grained, friable, conglomeratic

2790 - 2800 Sandstone, white, pink. Sand, fine- to coarse-grained. Shale, chloritic; red biotite; trace

2800 - 2810 As above, mostly cavings
PRECAMBRIAN at 2825 feet (driller's top)
TD samples 2810 feet
TD 2827 feet

Wood County
Center Township
Section 31

Southern Triangle Oil Co.
#1 Knauss
Permit No. 229
Sample No. 1317
Elevation (KB) 694 feet

Depth (ft)

1800 - 1815 Limestone, light- and medium-brown, greenish-gray, lithographic, micrograined; argillaceous in part

1815 - 1820 Limestone as above, 90%. Dolomite, medium-brown, finely crystalline; 10%. Pyrite, heavy trace

1820 - 1830 Dolomite, very light-brownish-gray, medium-brown, finely and medium-crystalline. Pyrite, trace

1830 - 1835 Dolomite, very light-brown to brownish-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- and fine-grained sand); 90%. Shale, medium-gray, dolomitic, slightly sandy (fine-grained sand); 10%. Sandstone, light-gray, very fine- and fine-grained, dolomitic; trace. Dolomite as in sample from 1820 to 1830 feet; trace. Limestone, light- and medium-brown, lithographic; trace. KNOX DOLOMITE at 1830 feet

1835 - 1840 Dolomite, very light- and light-brown, brownish-gray, microcrystalline (dolosiltite) and very finely crystalline

1840 - 1900 Dolomite as above, very light brown

1900 - 1925 Dolomite as above, microcrystalline (dolomicrite and dolosiltite)

1925 - 1930 Dolomite as above, 90%. Dolomite, light-gray, brownish-gray, microcrystalline (dolosiltite), very glauconitic, micaceous, clayey, very silty; 10%

1930 - 1945 Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite). Dolomite, light-gray, microcrystalline (dolosiltite), silty, glauconitic; heavy trace to trace

1945 - 1965 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Shale, light-green; trace

1965 - 1970 Dolomite as above

1970 - 1975 Dolomite, light-brown, very finely to medium-crystalline, slightly glauconitic. Shale, light-green; heavy trace

1975 - 1980 Dolomite, very light-gray, brown, microcrystalline (dolosiltite) to medium-crystalline; glauconitic in part; silty in part. Shale, light-

green; trace. Pyrite, trace

1980 - 1990 Dolomite as above, nonglauconitic, nonsilty. Pyrite, trace

1990 - 2015 Dolomite, very light-gray and brown, microcrystalline (dolosiltite) to finely crystalline, very slightly glauconitic

2015 - 2030 Dolomite as above, slightly sandy (fine-grained sand)

2030 - 2035 Dolomite as above. Shale, light-green; trace

2035 - 2040 Dolomite, very light-brown, microcrystalline (dolomicrite), sandy (fine- and medium-grained sand). KERBEL FORMATION at 2035 feet

2040 - 2045 Dolomite, very light-gray and brown, microcrystalline (dolosiltite), very sandy (fine- to coarse-grained sand). Shale, light-green; trace

2045 - 2050 Sandstone, very light-gray and brown, fine- to coarse-grained, dolomitic

2050 - 2070 Sandstone as above, grading into dolomite

2070 - 2095 Sandstone, very light-brown, very fine- and fine-grained, dolomitic; some medium- and coarse-grained sand

2095 - 2105 Sandstone, very light-brown, fine- to coarse-grained, dolomitic

2105 - 2115 Sandstone, very light- and light-gray, brownish-gray, fine-grained; dolomitic in part; slightly glauconitic in part

2115 - 2130 Sandstone, predominantly medium and coarse grained, very friable

2130 - 2135 Sandstone, very light-gray and brown, fine- and medium-grained, very friable

2135 - 2175 Sandstone, light-brownish-gray, fine-grained; slightly glauconitic from 2145 to 2160 feet; glauconitic from 2160 to 2175 feet. EAU CLAIRE FORMATION at 2145 feet

2175 - 2190 Sandstone, light-brownish-gray, fine-grained, glauconitic. Shale, medium-grayish-brown; heavy trace

2190 - 2200 Sandstone, light-brownish-gray, fine-grained, glauconitic, dolomitic, silty; grading into siltstone; 80%. Shale, medium-brownish-gray, greenish-gray; 20%. Cavings

2200 - 2220 Sandstone as above, 60%. Shale as above, 40%. Cavings

2220 - 2235 Sandstone as above, very fine grained, micaceous

2235 - 2250 Sandstone, light-brownish-gray, very fine-grained, glauconitic, slightly micaceous. Shale, medium-greenish-gray; trace

2250 - 2260 Sandstone as above, very fine and fine grained. Shale as above, trace

2260 - 2265 Sandstone as above, some medium-grained sand, 80%. Dolomite, light- and medium-brown, microcrystalline (dolosiltite), pelletal (fine-grained), sandy (fine- and medium-grained sand); 20%. ROME facies

2265 - 2270 Sandstone as above. Dolomite as above, trace

2270 - 2295 Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (very fine- to medium-grained sand); grading into sandstone; 60%. Sandstone as above, 40%

2295 - 2305 Sandstone, very light- and light-brown, fine- to coarse-grained, dolomitic. Dolomite as above, heavy trace

2305 - 2310 Sandstone as above, predominantly medium and coarse grained

2310 - 2335 Sandstone, very light- and light-brown to brownish-gray, fine- to coarse-grained, slightly glauconitic

2335 - 2340 Sandstone, very light- and light-brownish-gray and gray, very fine- and fine-grained; some medium- and coarse-grained sand; 70%. Dolomite, very light-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand); 20%. Shale, medium-greenish-gray; 10%

2340 - 2345 Sandstone as above, 90%. Shale as above, 10%. Dolomite as above, heavy trace

2345 - 2370 As above, sandstone glauconitic

2370 - 2380 Sandstone, light-gray, very fine- to medium-grained (predominantly very fine- and fine-grained), very glauconitic; 70%. Shale, medium-greenish-gray and brown, micaceous; glauconitic in part; 20%. Dolomite, very light- and light-gray and brown, microcrystalline (dolomicrite and dolosiltite); glauconitic in part; 10%

2380 - 2395 Sandstone as above, 95%. Shale as above, 5%. Cavings

2395 - 2405 Sandstone as above. Shale as above, trace

2405 - 2415 Sandstone, light-gray, brown, very fine- and fine-grained, very glauconitic; 80%. Shale, medium-greenish-gray, glauconitic; 20%

2415 - 2420 Sandstone, very light- and light-gray, brownish-gray, very fine- and fine-grained, very glauconitic; some medium- and coarse-grained sand; 80%. Shale, light- and medium-gray to brownish-gray, glauconitic, silty; grading into siltstone; 20%

2420 - 2430 Sandstone, very light-gray to brownish-gray, very fine- and fine-grained; glauconitic in part. Shale as above, heavy trace

2430 - 2435 Sandstone as above, nonglauconitic

2435 - 2440 Sandstone, very light- and light-gray, brownish-gray, very fine- to medium-grained (predominantly fine-grained), dolomitic, silty, argillaceous; grading into dolomite

2440 - 2445 Sandstone, light-gray, brown, fine- to coarse-grained, dolomitic; carbonate pellets

2445 - 2465 Sandstone as above, medium brown in part, mostly very friable

2465 - 2470 Sandstone, light-brownish-gray, fine- to coarse-grained (predominantly fine), dolomitic

2470 - 2500 Sandstone as above, very dolomitic in part, very friable, fine to coarse grained, grading into dolomite, pelletal

2500 - 2550 Sandstone, light-brownish-gray, very fine- to coarse-grained; few pink grains. MT. SIMON SANDSTONE at 2500 feet (very gradational contact)

2550 - 2555 Sandstone, light-gray, fine-grained, slightly dolomitic

2555 - 2585 Sandstone, light-gray, light-brown, fine- to coarse-grained, friable; few pink grains. Cavings in sample from 2570 to 2585 feet

2585 - 2630 Sandstone, light-gray, very light-brown, fine-grained; becoming fine to coarse grained at 2590 feet, predominantly coarse grained at 2610 feet

2630 - 2635 Sand, coarse-grained, rounded, frosted

2635 - 2645 Sand as above. Sandstone, light-brownish-gray, fine-grained; with black platy material

2645 - 2650 Sand as above. Sandstone, light-brown, fine-grained

2650 - 2655 Sand, coarse-grained, rounded, frosted

2655 - 2670 As in sample from 2645 to 2650 feet, predominantly sand, sandstone in part very light pinkish brown

2670 - 2675 As above, sandstone fine to coarse grained

2675 - 2680 Sandstone, pink, very fine-grained. Sand, coarse-grained, rounded and frosted

2680 - 2710 Sand as above, coarse to very coarse grained, in part brownish pink at 2695 feet

2710 - 2720 Sand as above, arkose (weathered granite). Cavings

2720 - 2730 Chlorite shale. Biotite, black and brown, fresh. Arkose. Cavings. PRECAMBRIAN at 2720 feet

2730 - 2765 As above. Granite or granite gneiss

TD samples 2675 feet

Wood County
Middleton Township
Section 21W

J.R.S. Co. #1 Asmus
Permit No. 239
Sample No. 1656
Elevation (KB) 670 feet

Depth (ft)	
1900 - 1910	Dolomite, medium- and dark-brown, finely and medium-crystalline; poor pinpoint and intercrystalline porosity
1910 - 1920	Dolomite, light-brown, fine-grained, very finely crystalline, pyritic, glauconitic; in part silty and sandy (very fine-grained sand). Sandstone, very light-gray, very fine-grained, slightly glauconitic, pyritic; heavy trace. Dolomite as above, trace. KNOX DOLOMITE at 1916 feet (GRN)
1920 - 1930	Siltstone, light-gray, glauconitic, sandy (very fine-grained sand); grading into sandstone; 40%. Shale, light-green; 30%. Dolomite, very light- and light-brown, very finely and finely crystalline, slightly glauconitic; 30%
1930 - 1940	Dolomite as above, very light and light brown, in part oolitic and pelletal (coated pellets), 80%. Siltstone as above, 20%
1940 - 1950	As above, dolomite in part pyritic, poor pinpoint porosity
1950 - 1980	Dolomite as above, nonpyritic
1980 - 2020	Dolomite, light-brown, microcrystalline (dolomicrite and dolosiltite) and very finely crystalline
2020 - 2030	Siltstone, light-gray, glauconitic, micaceous; 60%. Dolomite as above, fine grained in part, laminations of siltstone; 40%
2030 - 2040	Dolomite as above. Siltstone laminations as above, trace
2040 - 2050	Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline. Sandstone, light- and medium-gray, very fine-grained, silty, glauconitic; heavy trace
2050 - 2070	Dolomite as above, medium brown in part, pelletal (coated, medium-grained, mud-supported) in part, glauconitic in part. Sandstone as above, trace. Shale, medium-green; trace
2070 - 2080	Sandstone, medium-gray, very fine-grained, silty, glauconitic, micaceous; 80%. Dolomite, light- and medium-brown, very finely and finely crystalline, glauconitic, silty, sandy (very fine-grained sand)
2080 - 2090	Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolosiltite) to finely crystalline; silty and glauconitic in part. Sandstone as above, 30%
2090 - 2100	Dolomite, very light-gray, very finely crystalline, slightly glauconitic
2100 - 2130	Dolomite as above, sandy in part (fine- to coarse-grained sand), fair pinpoint porosity. KERBEL FORMATION at 2100 feet
2130 - 2140	Dolomite as above, very light brown in part
2140 - 2150	Dolomite as above, in small part very sandy, grading into sandstone
2150 - 2160	Sandstone, very light-gray and brown, predominantly coarse-grained, dolomitic, very friable
2160 - 2170	Sandstone as above, very fine to coarse grained
2170 - 2180	Sandstone, very light-brown, very fine-grained, dolomitic; some fine- to coarse-grained sand
2180 - 2190	Sandstone, medium-brown to grayish-brown, very fine- to medium-grained, dolomitic to very dolomitic; some dolomite pellets, oolites, and pyrite patches; poorly sorted in part. Shale, dark-brown; trace
2190 - 2210	Sandstone as above, predominantly light brownish gray, predominantly very fine and fine grained
2210 - 2230	Sandstone, very light-brown and gray, very fine- to coarse-grained, poorly sorted, dolomitic
2230 - 2250	Sandstone, very light-brown and gray, very fine- and fine-grained, very friable
2250 - 2270	Sandstone, very light-gray, very fine-grained
2270 - 2280	Sandstone, light-gray, very fine-grained, glauconitic; 90%. Shale, medium-brown, micaceous; 10%. EAU CLAIRE FORMATION at 2270 feet
2280 - 2290	As above, shale in part medium grayish green
2290 - 2310	Shale, medium-gray to greenish-gray; minor amount medium-brown; 60%. Sandstone, very light-gray, brown, very fine-grained, slightly glauconitic; 40%
2310 - 2330	Siltstone, light- and medium-grayish-brown, grayish-green, glauconitic, dolomitic; hematitic in part; grading into dolomite. Shale as above, trace
2330 - 2340	Siltstone as above, light pinkish gray to yellowish gray in part. Shale, medium-grayish-green, micaceous; heavy trace
2340 - 2360	Siltstone and very fine-grained (some fine-grained) sandstone, light-grayish-brown, gray, greenish-gray, pinkish-gray to yellowish-gray, glauconitic, hematitic. Dolomite, very light- and light-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy (fine-grained sand); heavy trace
2360 - 2380	Dolomite, very light-gray, light-brown, pink, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (fine- to coarse-grained sand). ROME facies at 2340 feet (GRN)
2380 - 2400	Sandstone, very light-gray, brown, pinkish-brown, fine- to coarse-grained, very friable
2400 - 2430	Sandstone, very light-gray, very fine- and fine-grained; some medium- and coarse-grained sand
2430 - 2440	Sandstone, very light-gray to light-brown, very fine- and fine-grained, very slightly glauconitic. Shale, medium-grayish-green; heavy trace
2440 - 2450	Sandstone, very light- and light-gray, very fine- to medium-grained; some coarse-grained sand; few medium-grained glauconite pellets; 90%. Shale as above, 10%
2450 - 2490	Sandstone as above, light grayish brown in part, glauconitic. Shale as above, heavy trace
2490 - 2520	Sandstone, light-gray, brown, grayish-brown, very fine- and fine-grained, very glauconitic. Shale, medium-grayish-green, brown; heavy trace to trace
2520 - 2540	Sand, predominantly fine-grained (some medium-grained), angular to rounded and frosted. MT. SIMON SANDSTONE at 2520 feet
2540 - 2570	Sand as above, fine and medium grained
2570 - 2590	Sand as above, predominantly fine grained; fine and medium grained from 2580 to 2590 feet
2590 - 2630	Sand, fine- to coarse-grained, angular to rounded and frosted
2630 - 2710	Sandstone, very light-brownish-gray to gray, fine- and medium-grained, very friable; some coarse-grained sand
2710 - 2720	Sandstone, very light-pinkish-gray to yellowish-gray, very fine- to coarse-grained, friable
2720 - 2800	Sand, fine- to coarse-grained, angular to rounded and frosted
2800 - 2805	Sand as above. Biotite, red; heavy trace. Cavings
2805 - 2810	Granite or granite gneiss, rich with red biotite. Shale, chloritic; trace. PRECAMBRIAN at 2805 feet
2810 - 2825	Granite or granite gneiss
	TD samples 2825 feet

Wood County
Plain Township
Section 1

Kin-Ark Oil Co. #1 Smith
Permit No. 236
Sample No. 1466
Elevation (KB) 677 feet

Depth (ft)	
1850 - 1870	Limestone, light-brown and yellowish-gray, dense, lithographic to fine-grained, fossiliferous (ostracods). Shale, light- and medium-grayish-green; trace
1870 - 1880	Limestone, light-gray and brownish-gray, sublithographic. Shale as above, trace
1880 - 1900	Limestone, light-brown, sublithographic to fine-grained
1900 - 1910	Dolomite, white and light- and medium-brown, fine-grained, microcrystalline. Shale, light-green, silty; heavy trace. KNOX DOLOMITE at 1909 feet (GRN)
1910 - 1920	Dolomite as above, light gray to brownish gray, slightly glauconitic
1920 - 1930	Sample out of place? Sandstone (Mt. Simon). Shale, black- to dark-brown. Dolomite
1930 - 1950	Dolomite, light-brown and light-gray, fine-grained, medium-crystalline
1950 - 2010	Dolomite, light-yellowish-gray, fine-grained, finely crystalline; very slightly glauconitic from 1980 to 1990 feet
2010 - 2020	Dolomite, very light-gray, fine-grained, finely crystalline, slightly glauconitic, sandy (fine-grained sand). Shale, very light-green; trace
2020 - 2030	Dolomite as above. Sand, fine- and medium-grained, subrounded; heavy trace
2030 - 2050	As in sample from 2010 to 2020 feet
2050 - 2100	Dolomite as above, white and very light gray, sandy in part (medium-grained sand). KERBEL FORMATION at 2050 feet
2100 - 2110	Dolomite as above, very sandy
2110 - 2140	Dolomite as above. Sand, fine- and medium-grained, angular to rounded (broken sand); 50%
2140 - 2170	Sand, fine- and medium-grained (predominantly medium), angular to rounded (broken). Dolomite as above, trace
2170 - 2180	Sand as above. Sandstone, light- and medium-grayish-brown, fine- and medium-grained, slightly dolomitic. Shale, light-grayish-brown; heavy trace
2180 - 2190	Sand, fine- and medium-grained (predominantly fine), angular to subrounded
2190 - 2220	Sand as above. Sandstone, fine- and medium-grained, slightly dolomitic
2220 - 2240	Sandstone, very light-brownish-gray, fine-grained, slightly glauconitic, slightly dolomitic. EAU CLAIRE FORMATION at 2220 feet
2240 - 2250	Sandstone as above, very glauconitic in part, very dolomitic in part. Shale, medium-grayish-brown, silty; probably as laminae in sandstone; heavy trace
2250 - 2260	Shale, medium-greenish-gray, silty, dolomitic; grading into siltstone. Sandstone, light-brownish-gray to medium-brown, fine-grained, very dolomitic, slightly glauconitic, fossiliferous (brachiopods); grading into dolomite
2260 - 2270	As above, sandstone and dolomite in part micaceous, very glauconitic
2270 - 2290	Sandstone, light-brownish-gray, fine-grained, glauconitic, micaceous; light yellowish pink in part. Dolomite, very light- and light-brown, fine- and medium-grained, finely and medium-crystalline, sandy, silty; argillaceous in part (red clay); glauconitic from 2280 to 2290 feet
2290 - 2310	Sandstone, light-yellowish-pink and light-greenish-gray, fine-grained, glauconitic to very glauconitic. Siltstone, medium-greenish-gray, argillaceous, dolomitic
2310 - 2320	Sandstone as above. Shale, medium-gray to brownish-gray and greenish-gray, silty; as laminae in sandstone
2320 - 2340	Dolomite, light-yellowish-gray, fine-grained, microcrystalline, slightly oolitic, pelletal, sandy to very sandy (fine- and medium-grained sand, angular to subrounded). ROME tongue
2340 - 2360	Dolomite as above, in part light and medium brown, sand in dolomite fine to coarse grained, subangular to rounded
2360 - 2380	Dolomite, light-yellowish-gray, fine-grained, very sandy; grading into dolomitic sandstone at 2370 feet. Sand, fine- to coarse-grained, subangular to rounded; 50%
2380 - 2390	No samples
2390 - 2410	Sandstone, light-yellowish-gray, light-brown and light-brownish-gray, fine- and medium-grained (predominantly fine), dolomitic, slightly glauconitic; laminae of silty medium-brownish-gray shale
2410 - 2420	Sandstone as above, fine grained, glauconitic
2420 - 2440	Sandstone as above, in part light and medium brown, very dolomitic
2440 - 2470	Sandstone, light-yellowish-gray to pinkish-yellow and light-greenish-gray, fine-grained, very glauconitic, dolomitic; laminae of silty medium-brownish-gray shale
2470 - 2480	Sandstone as above. Dolomite, light-yellowish-gray, coarsely bioclastic, glauconitic
2480 - 2490	Sandstone, light-yellowish-gray, fine-grained; siliceous in part. Dolomite; bioclastic as above; trace. MT. SIMON SANDSTONE at 2480 feet
2490 - 2560	Sandstone, very light-gray, fine- to coarse-grained (predominantly coarse), subangular to rounded
2560 - 2570	Sandstone, light-pinkish-yellow, fine- to coarse-grained; in small part poorly sorted. Sandstone, light- and medium-gray, fine- and medium-grained, argillaceous, dolomitic; minor
2570 - 2580	Sandstone as above, gray sandstone in part very silty and argillaceous
2580 - 2600	Sandstone, light-yellowish-gray, fine- and medium-grained. Sand, coarse-grained, subrounded and rounded. Sandstone, gray as above, trace
2600 - 2610	Sandstone, yellowish gray as above, slightly glauconitic in part
2610 - 2630	Sandstone, light-yellowish-gray, poorly sorted, fine- to coarse-grained
2630 - 2650	Sandstone as above, pink in part
2650 - 2720	Sandstone as above, predominantly coarse grained (loose grains)
2720 - 2730	Sand, coarse-grained, rounded and subrounded. Sandstone, pink, fine- to coarse-grained (predominantly fine); minor
2730 - 2750	Sand as above. Sandstone as above, very light gray, trace
2750 - 2770	Sand as above, predominantly pink. Sandstone, fine- to coarse-grained, argillaceous; trace
2770 - 2785	Sand as above, trace. Quartz, orthoclase, plagioclase, biotite, chlorite; granite or gneiss(?) PRECAMBRIAN at 2770(?) feet *TD samples 2785 feet*

Wyandot County
Crawford Township
Section 18

Ohio Oil Co. #1 Heck
Permit No. 72
Sample No. 99
Elevation (G) 860 feet

Depth (ft)	
1872 - 1885	Limestone, very light-grayish-brown and light-

brown, lithographic; dolomitized in part

1885 - 1894 Limestone as above, 60%. Dolomite, light-green, sandy (very fine- and fine-grained sand), argillaceous; grading into shale; 40%

1894 - 1905 Dolomite and shale as above, medium gray in part. Limestone as above, 40%

1905 - 1915 Dolomite, very light-gray, brown, greenish-gray, microcrystalline (dolosiltite), sandy (very fine-grained sand); very finely sucrosic in part; very slightly glauconitic; 70%. Dolomite and shale as above, 30%. KNOX DOLOMITE at 1908 feet

1915 - 1937 Dolomite, very light-gray, very light-brown, microcrystalline (dolosiltite) and very finely crystalline; glauconitic in part; sandy in part (very fine-grained sand). Dolomite, light-green, argillaceous; grading into shale; trace

1937 - 1953 Dolomite, very light-brown, microcrystalline (dolosiltite); 60%. Siltstone, very light-gray, greenish-gray, dolomitic; slightly glauconitic in part; 40%

1953 - 1958 Dolomite, very light-brown and gray, microcrystalline (dolosiltite) and very finely crystalline; 90%. Siltstone as above, 10%. Very fine sample

1958 - 1964 Dolomite as above, very fine sample

1964 - 1980 Dolomite as above, 80%. Siltstone as above, 20%

1980 - 1991 Dolomite, very light-brown, microcrystalline (dolosiltite), silty; grading into siltstone

1991 - 1999 Dolomite, very light- and light-brown, microcrystalline (dolosiltite), 90%. Siltstone, very light-gray, 10%

1999 - 2008 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline

2008 - 2015 Dolomite as above, very light gray in part

2015 - 2040 Dolomite, very light-gray, very finely crystalline. Sandstone, very light-gray, very fine-grained; some fine-grained sand; trace

2040 - 2061 Dolomite as above, light yellowish gray, sandy (very fine- and fine-grained sand)

2061 - 2076 Dolomite as above, very sandy

2076 - 2082 Dolomite, very light-gray and light-yellowish-gray, microcrystalline (dolosiltite) and very finely crystalline, sandy to very sandy (very fine- and fine-grained sand)

2082 - 2113 Dolomite, very light-yellowish-brown to yellowish-gray, microcrystalline (dolosiltite), slightly sandy (very fine- and fine-grained sand); poor pinpoint porosity

2113 - 2119 Dolomite as above, sandy to very sandy (fine- to coarse-grained sand); grading into sandstone. KERBEL FORMATION at 2113 feet

2119 - 2129 Sandstone, very light-brown, very fine- to coarse-grained, dolomitic; very friable in part

2129 - 2138 Sandstone as above, predominantly coarse grained

2138 - 2168 Sand, fine- to coarse-grained (predominantly medium), rounded and frosted

2168 - 2177 Sandstone, very light-brown, fine- to coarse-grained (predominantly fine), dolomitic, very friable

2177 - 2204 Sandstone as above, light gray in part

2204 - 2226 Sandstone as above, nondolomitic. Siltstone, light-grayish-brown; trace

2226 - 2238 Sandstone, very light-brown, fine-grained, very friable. Siltstone, light-grayish-brown; trace

2238 - 2255 Sandstone, very light-gray, very fine-grained, glauconitic; laminations of slightly argillaceous light-brown siltstone. CONASAUGA FORMATION at 2238 feet

2255 - 2270 Sandstone, very light-brownish-gray, very fine-grained, slightly glauconitic, silty; 80%. Shale, dark-brown, silty; 20%

2270 - 2283 Sandstone and siltstone as above, 50%. Shale as above, medium gray in part, 50%

2283 - 2292 Sandstone, very light-brownish-gray, very fine-grained, slightly glauconitic; grading into siltstone. Siltstone, light-brown; grayish brown in part. Shale, medium-brown to grayish-brown, very silty; heavy trace

2292 - 2315 Sandstone, very light- and light-grayish-brown to brownish-gray, very light-pinkish-gray, very fine-grained, slightly glauconitic, silty; grading into siltstone; shaly laminations. Dolomite, light-brown, medium-grained, slightly glauconitic, hematitic; trace

2315 - 2325 Sandstone, very light-brownish-gray, very fine- and fine-grained, slightly glauconitic, very friable

2325 - 2337 Sandstone as above. Dolomite, light-brown, microcrystalline (dolosiltite), pelletal, sandy (very fine- to coarse-grained sand); trace. ROME FORMATION at 2335 feet

2337 - 2346 Sandstone as above, 80%. Dolomite as above, very light brown, 20%

2346 - 2353 Dolomite, very light- and medium-brown, microcrystalline (dolosiltite) and finely crystalline, sandy to very sandy (very fine- to coarse-grained sand); pelletal in part

2353 - 2361 Dolomite, very light-gray, grayish-brown, light-brown, microcrystalline (dolosiltite) and very finely crystalline, sandy (fine- to coarse-grained sand)

2361 - 2378 Dolomite, very light-brownish-gray to light-yellowish-gray, microcrystalline (dolosiltite), sandy (fine- and medium-grained sand)

2378 - 2403 Sandstone, very light-brownish-gray, fine- to coarse-grained, dolomitic, very friable

2403 - 2425 Sandstone, very light-grayish-brown to brown, very fine- to coarse-grained (predominantly very fine), slightly dolomitic

2425 - 2438 Sandstone as above, very light pinkish gray in part, laminations of argillaceous medium-gray siltstone grading into shale

2438 - 2476 Sandstone, very light- and light-gray, brown, predominantly fine-grained, slightly glauconitic, very friable; very dolomitic in part

2476 - 2505 Sandstone as above, very light pinkish gray in part, laminations of argillaceous light- and medium-brownish-gray to grayish-brown siltstone

2505 - 2512 Sandstone, very light- and light-brown, very fine-grained, very dolomitic. Siltstone, light- and medium-grayish-brown, slightly dolomitic

2512 - 2522 Sandstone, very light-brown, very fine- to coarse-grained (predominantly fine); 80%. Siltstone as above, 20%

2522 - 2538 Sand, fine- and medium-grained; 50%. Dolomite, medium-brown, microcrystalline (dolomicrite), pelletal (fine-grained, grain-supported); 50%

2538 - 2544 Dolomite, very light-grayish-brown to light-brown, microcrystalline (dolomicrite and dolosiltite), in part pelletal as above. Sand as above, trace

2544 - 2551 Dolomite as above, 80%. Sand, fine- to coarse-grained, rounded and frosted; 20%

2551 - 2558 Dolomite as above, 50%. Sand as above, 50%

2558 - 2582 Sandstone, fine- to coarse-grained (predominantly coarse), very friable. MT. SIMON SANDSTONE at 2558 feet

2582 - 2587 Sand, fine- to coarse-grained, poorly sorted

2587 - 2596 Sand, fine- to coarse-grained (predominantly fine)

2596 - 2602 Sandstone, very light-yellowish-gray, light-brown, medium-gray, very fine- to coarse-grained

2602 - 2610 Sandstone as above, 70%. Dolomite, medium-brown, microcrystalline (dolomicrite), pel-

letal; 30%
2610 - 2622 Sandstone and sand, light-yellowish-gray, fine- to coarse-grained. Dolomite as above, trace
2622 - 2657 Sandstone and sand as above
2657 - 2678 As above, sandstone in part pink
2678 - 2697 As above. Pyrite and marcasite, trace
2697 - 2738 As in sample from 2657 to 2678 feet. Pyrite and marcasite, trace from 2706 to 2727 feet
2738 - 2759 Sand, fine- to coarse-grained (predominantly medium)
2759 - 2795 Sand, fine- to coarse-grained; predominantly coarse grained from 2770 to 2780 feet
2795 - 2801 Sand as above, 80%. Granite, 20%. PRECAMBRIAN at 2800 feet. Described by McCormick (1961)
TD samples 2801 feet

Wyandot County
Eden Township
Section 3

Minnesota-Ohio Oil Co. #1
Eyestone
Permit No. 211
Sample No. 1706
Elevation (KB) 942 feet

Depth (ft)
2350 - 2360 Limestone, very light-grayish-brown, light-brown, lithographic. Dolomite, light-brown, microsucrosic; heavy trace
2360 - 2385 Limestone as above, 80%. Dolomite, 20%. Sand, fine- and medium-grained, rounded and frosted; trace to 2370 feet
2385 - 2395 Limestone as above, 95%. Shale, medium- and dark-green; 5%. Dolomite as above, trace
2395 - 2410 Limestone as above, 70%. Shale, light- and medium-green to greenish-gray, dolomitic, silty, pyritic, sandy; grading into very fine-grained sandstone; 30%
2410 - 2415 Limestone as above, 50%. Siltstone, light-gray, dolomitic, slightly glauconitic; 40%. Shale as above, 10%. KNOX DOLOMITE ("B zone") at 2396 feet (GRN)
2415 - 2420 Siltstone as above. Shale and limestone cavings
2420 - 2430 Siltstone as above, grading into very fine-grained sandstone. Cavings
2430 - 2440 Sandstone, very light-gray, very fine-grained, slightly glauconitic. Dolomite, very light-brown, microcrystalline (dolosiltite); trace
2440 - 2480 Sandstone as above, 50%. Dolomite as above, 50%. Sand, fine-grained; trace
2480 - 2500 Dolomite, very light-brownish-gray and brown, microcrystalline (dolosiltite) and very finely crystalline
2500 - 2510 Dolomite, very light-gray, brownish-gray, brown, microcrystalline (dolosiltite) to finely crystalline
2510 - 2520 No sample
2520 - 2560 Dolomite as above, predominantly very light gray
2560 - 2570 Dolomite, very light-gray, brownish-gray, very light- and light-brown, microcrystalline (dolosiltite); some fine-grained pellets
2570 - 2580 Dolomite as above, sandy in part (fine-grained sand)
2580 - 2590 Dolomite, very light-gray, microcrystalline (dolosiltite), pelletal (fine-grained, mud-supported), sandy (fine- and medium-grained sand). KERBEL FORMATION at 2580 feet
2590 - 2611 Dolomite as above, very light gray to brownish gray, very sandy (fine- to coarse-grained sand); grading into sandstone
2611 Sandstone, very light-brownish-gray, fine- to coarse-grained (predominantly coarse), dolomitic; very friable rounded and frosted grains; circulation sample
2610 - 2620 Sandstone as above
2620 - 2660 Sandstone as above, predominantly medium grained
2660 - 2670 Sandstone, very light-brownish-gray, very fine- to coarse-grained (predominantly fine)
2670 - 2680 Sandstone as above, predominantly very fine grained
2680 - 2710 Sandstone as above, 90%. Siltstone, dark-brown, slightly dolomitic, slightly sandy (very fine-grained sand); 10%. CONASAUGA FORMATION at 2680 feet
2710 - 2720 Sandstone, very light-brownish-gray, very fine-grained, dolomitic, slightly glauconitic, silty; 50%. Siltstone, light- to dark-brown; 50%
2720 - 2740 Sandstone as above, micaceous, very dolomitic, grading into dolomite, 80%. Siltstone as above, 20%
2740 - 2760 Siltstone and very fine-grained sandstone, very light-pinkish-gray, very light- and light-brown, glauconitic, dolomitic
2760 - 2800 Sandstone as above, very fine and fine grained. Shale, medium-gray to dark-brown, silty; trace
2800 - 2810 As above, 60%. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), pelletal (fine-grained, grain-supported); 40%. ROME FORMATION at 2799 feet (GRN)
2810 - 2820 Dolomite as above. Sandstone as above, trace
2820 - 2860 Dolomite as above. Dolomite, very light-gray, microcrystalline to finely crystalline, sandy (very fine- to medium-grained sand); pelletal in part
2860 - 2870 Dolomite as above, very sandy (very fine- to coarse-grained sand)
2870 - 2880 Dolomite as above, grading into sandstone
2880 - 2900 Sandstone, very light-gray, predominantly medium-grained, dolomitic, very friable
2900 - 2930 Sandstone, very light-pinkish-gray to brownish-gray, very fine- and fine-grained, dolomitic. Shale, dark-gray and brown, silty; grading into siltstone; heavy trace to trace
2930 - 2960 Sandstone as above, light brown in part, very slightly glauconitic
2960 - 2970 Sandstone as above, 50%. Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), sandy (very fine- and fine-grained sand), pelletal (fine-grained, mud-supported); 50%
2970 - 3000 Dolomite as above, sandy (fine- and medium-grained sand)
3000 - 3040 Dolomite, light- to dark-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy (fine- to coarse-grained sand), pelletal and oolitic(?) in part (fine- and medium-grained, oblong in part, grain- and mud-supported)
3040 - 3050 Dolomite as above, very sandy, 70%. Sandstone, very light-pinkish-gray, very fine- and fine-grained; 30%
3050 - 3060 Dolomite as above, 50%. Sandstone as above, fine to coarse grained, 50%. MT. SIMON SANDSTONE at 3055 feet
3060 - 3070 Sandstone, very light-pinkish-gray to light-brown, very fine- to coarse-grained
3070 - 3090 Sandstone as above, grading into pelletal and oolitic dolomite
3090 - 3110 No sample
3110 - 3130 Sandstone as above, grading into dolomite, medium brown in part
3130 - 3160 Sandstone, very light-pinkish-gray to light-brown, light- to dark-gray (with fine- to coarse-grained black pellets), very fine- to coarse-grained
3160 - 3190 Sandstone, very light-pinkish-gray to yellowish-gray, fine- to coarse-grained (predominantly coarse), friable

3190 - 3240	Sandstone as above, pink
3240 - 3250	Sandstone as above. Granite, trace. PRECAMBRIAN at 3250 feet
3250 - 3260	Granite
	TD samples 3260 feet

Wyandot County
Mifflin Township
Section 14

Texaco, Inc. #1 Bowen
Permit No. 174
Sample No. 1222
Elevation (KB) 846 feet

Depth (ft)	
1800 - 1815	Limestone, light-yellowish-gray and very light-brown, fine- and medium-grained, fossiliferous, dense; recrystallized in part; lithographic in part. Shale, medium-gray to greenish-gray; trace
1815 - 1860	Limestone as above. Limestone, medium-brown
1860	Limestone as above. Dolomite, very light-brown to light-yellowish-gray, very finely to finely crystalline; some vuggy porosity. Circulation sample. KNOX DOLOMITE at 1856 feet (GRN)
1860 - 1880	Dolomite as above
1880 - 1905	Dolomite as above, sucrosic in part
1905 - 1940	Dolomite as above. Sandstone, light-gray and greenish-gray, fine-grained, glauconitic, dolomitic; 30% to minor. Shale, light-green; trace
1940 - 1955	Dolomite as above. Sandstone as above, trace. Shale as above, trace
1955 - 1960	Dolomite as above. Sandstone as above, minor. Shale as above, trace
1960 - 1965	Dolomite as above. Sandstone and shale as above, trace
1965 - 1990	Sandstone, light-yellowish-gray, very light-gray, fine-grained, dolomitic, glauconitic. Dolomite as above, 50% to minor
1990 - 2010	Dolomite as above. Sandstone as above, up to 30%
2010 - 2045	Dolomite as above. Sandstone as above, heavy trace to trace
2045 - 2075	Dolomite, light-yellowish-gray to very light-brown, fine-grained, finely crystalline to microcrystalline (minor)
2075 - 2080	Dolomite as above. Sandstone as in sample from 1905 to 1940 feet, minor (cavings?)
2080 - 2085	Dolomite as above. Dolomite, white- to very light-gray, very finely to medium-crystalline. Sandstone as above (cavings?)
2085 - 2105	As above, predominantly white and very light-gray dolomite
2105 - 2110	Dolomite, very light-yellowish-gray, microcrystalline, sandy to very sandy. Sand, fine- to coarse-grained (predominantly coarse), rounded and frosted. Misplaced sample(?)
2110 - 2120	As in sample from 2085 to 2105 feet
2120 - 2135	Dolomite, white to very light-gray, very finely to medium-crystalline, slightly glauconitic, very slightly sandy (fine-grained sand)
2135 - 2140	Dolomite, very light-brown and light-yellowish-gray, microcrystalline, sandy. Sand, very fine- to coarse-grained; rounding of grains increasing with size
2140 - 2145	Dolomite as in sample from 2120 to 2135 feet
2145 - 2150	Dolomite, very light-brown and light-yellowish-gray, microcrystalline
2150 - 2165	Dolomite, white to very light gray, slightly sandy (very fine- and fine-grained sand)
2165 - 2175	Dolomite, very light-yellowish-gray, microcrystalline and very finely crystalline, sandy to very sandy. Sand, very fine- to coarse-grained; rounding of grains increasing with size
2175 - 2180	Dolomite, white and very light-gray, microcrystalline and very finely crystalline, sandy (very fine- and fine-grained sand)
2180 - 2190	Dolomite as in sample from 2165 to 2175 feet
2190 - 2195	Dolomite as in sample from 2175 to 2180 feet. Dolomite, very light-brown
2195 - 2205	Dolomite as in sample from 2165 to 2175 feet. Sand, coarse-grained, rounded; frosted in part; 50%. KERBEL FORMATION at 2195 feet
2205 - 2220	Dolomite as above, grading into fine- to coarse-grained sandstone
2220 - 2235	Sandstone, very light-grayish-brown to very light- and light-brown, fine-grained, dolomitic, nonglauconitic. EAU CLAIRE FORMATION
2235 - 2240	Sandstone as above, poorly sorted, fine to coarse grained in part
2240 - 2255	Sandstone, light-yellowish-gray to light-brown, predominantly fine-grained; minor; poorly sorted as above
2255 - 2260	Sandstone as above, slightly glauconitic
2260 - 2285	Sandstone, very light-brown, fine-grained, dolomitic; very slightly glauconitic in part
2285 - 2290	Sandstone, very light-brown and pinkish-yellow, fine-grained, slightly glauconitic, dolomitic
2290 - 2300	Sandstone as above, very slightly glauconitic in part
2300 - 2305	Sandstone as above, with laminae of silty medium-dark-gray shale
2305 - 2320	Sandstone as above. Siltstone, very light-brown, slightly dolomitic, glauconitic; minor. CONASAUGA FORMATION at 2305 feet
2320 - 2325	Siltstone as above. Sandstone and shale as above, minor. Dolomite, very light-gray, microcrystalline and very finely crystalline, slightly glauconitic; trace
2325 - 2335	Shale, medium-gray, silty; in part micaceous. Siltstone, very light-brown, dolomitic, slightly glauconitic. Siltstone and sandstone as above. Dolomite, light-brown, microcrystalline, bioclastic, glauconitic; minor. Limestone, very light-brown, fine-grained, lithographic; trace
2335 - 2360	Sandstone, very light-brown, very fine- and fine-grained, dolomitic, slightly glauconitic to glauconitic. Shale as above, minor. Dolomite as above, minor to trace
2360 - 2370	Sandstone as above, some shale laminae as above
2370 - 2380	Sandstone, very light-brown, light-yellowish-gray and pinkish-yellow, fine-grained, slightly dolomitic; micaceous in part; slightly glauconitic. Shale as above, trace
2380 - 2395	Sandstone as above, nonglauconitic and nonmicaceous. Sand, medium- to coarse-grained, rounded; heavy trace (cavings?). Shale and limestone cavings
2395 - 2400	Dolomite, very light-brown to yellowish-gray, very finely crystalline, fine- to coarse-grained, pelletal, oolitic, sandy to very sandy, silty. Sandstone as above, minor. ROME FORMATION at 2386 feet (GRN)
2400 - 2420	Dolomite as above, sand in dolomite fine to coarse grained, rounding increasing with grain size. Sandstone, very light-brown, fine-grained, glauconitic; minor. Limestone, very light-brown, lithographic; trace. Limestone and sandstone (cavings?)
2420 - 2435	Dolomite as above, sandy (fine- and medium-grained sand). Sandstone, pinkish-yellow, fine-grained, micaceous; trace
2435 - 2440	Dolomite, light-yellowish-gray to very light-brown, microcrystalline and very finely crystalline; fine grained in part; sandy in part

(fine- to coarse-grained sand); grading into sandstone

2440 - 2445 As above, predominantly sand, medium and coarse grained, subrounded and rounded

2445 - 2450 Dolomite and sandstone as in sample from 2435 to 2440 feet

2450 - 2460 Sandstone, very light-brown, fine- and medium-grained; sand grains rounded; dolomite pellets; very dolomitic in part, grading into sandy dolomite

2460 - 2470 Sandstone as above. Sand, coarse-grained, rounded; heavy trace

2470 - 2480 Sandstone as above. Sandstone, very light-brown, very fine- and fine-grained, dolomitic. Sand as above, heavy trace

2480 - 2490 Sandstone as above, predominantly very fine and fine grained. Sandstone, fine- and medium-grained as in sample from 2450 to 2460 feet; heavy trace. Sand as above, trace

2490 - 2510 As above. Shale, dark-gray, silty, micaceous; trace

2510 - 2520 As above, sandstone slightly glauconitic

2520 - 2525 Sandstone, light-yellowish-gray to light-brownish-gray, very fine- and fine-grained (minor amount medium grained), glauconitic, dolomitic

2525 - 2550 Sandstone as above, pinkish yellow in part

2550 - 2560 Sandstone, light-gray, very light-brown, fine-grained, glauconitic. Sandstone, light-yellowish-gray, poorly sorted, fine- to coarse-grained, dolomitic

2560 - 2570 Sandstone as above, predominantly poorly sorted

2570 - 2575 Sandstone, light-yellowish-gray, poorly sorted, fine- to coarse-grained, dolomitic to very dolomitic

2575 - 2580 Sandstone, very light-brown and light-yellowish-gray, predominantly fine-grained, dolomitic

2580 - 2585 Sandstone as above. Dolomite, light-yellowish-gray, light- and medium-brown, microcrystalline, oolitic, pelletal, sandy; trace

2585 - 2605 Dolomite, light-yellowish-brown to medium-brown, microcrystalline, oolitic (light- to dark-brown oolites), pelletal, sandy (predominantly very fine- and fine-grained sand). Sandstone, light-yellowish-gray, fine- to coarse-grained, dolomitic; trace. Sandstone as above; trace

2605 - 2625 Dolomite, light-yellowish-gray to medium-brown, microcrystalline, fine-grained, sandy (predominantly fine-grained sand); pelletal and oolitic in part; some pinpoint porosity. Sandstone as above, trace

2625 - 2635 Dolomite as above. Sandstone as above, minor

2635 - 2685 Sandstone, light-yellowish-gray, poorly sorted, fine- to coarse-grained, dolomitic. Dolomite as above, minor. Sandstone, light-gray and yellowish-gray, fine-grained, dolomitic, glauconitic; trace (cavings?). MT. SIMON SANDSTONE at 2635 feet

2685 - 2740 Sandstone, light-yellowish-gray, pinkish-yellow, fine- to coarse-grained; very dolomitic in part. Dolomite as above, minor to heavy trace

2740 - 2770 Sand, light-yellowish-gray to pinkish-yellow, fine-grained. Sand, medium- and coarse-grained, predominantly subrounded and rounded

2770 - 2790 As above. Sandstone, light- and medium-gray, fine- to coarse-grained, argillaceous; trace

2790 - 2830 Sand, medium- and coarse-grained, subrounded and rounded. Sandstone, light-yellowish-gray, pinkish-yellow, brownish-gray, fine- and medium-grained; minor

2830 - 2855 Sand as above, predominantly coarse grained

2855 - 2860 Limestone cavings. Sand as above. Siltstone, light- and medium-greenish-gray, sandy, argillaceous, micaceous. Orthoclase, pink, angular; minor

2860 - 2900 Cavings and sand as above. Quartz, biotite, hornblende, plagioclase (order of decreasing percentages); gneiss(?) or shist(?). PRECAMBRIAN at 2860 feet

TD samples 2900 feet

Wyandot County
Salem Township
Section 31

Comanche Oil Co. #1 Frey
Permit No. 173
Sample No. 1214
Elevation (DF) 868 feet

Depth (ft)

1855 - 1868 Limestone, very light- and light-brown, lithographic; microsucrosic and dolomitized in part

1868 - 1882 Limestone as above. Shale, light- and medium-green; trace

1882 - 1900 Dolomite, very light-gray, brown, microcrystalline (dolosiltite) and very finely crystalline, slightly sandy (very fine- and fine-grained); 90%. Limestone as above, 10%. Shale as above, sandy, glauconitic, trace. KNOX DOLOMITE ("B zone") at 1902 feet (GRN)

1900 - 1924 Dolomite, very light- and light-gray, brown, microcrystalline (dolosiltite) and very finely crystalline, slightly glauconitic and pyritic; silty in part; grading into siltstone; 95%. Shale, light-green, pyritic; 5%. Limestone as above, heavy trace

1924 - 1954 Dolomite, very light- and light-brown, microcrystalline (dolosiltite) and very finely crystalline. Shale, siltstone, and very fine-grained sandstone, light-green, glauconitic; trace

1954 - 2042 Dolomite as above, very poor pinpoint porosity

2042 - 2079 Dolomite as above, finely crystalline in part. Dolomite, very light-gray, microcrystalline (dolosiltite) to finely crystalline

2079 - 2100 Dolomite as above. Pyrite, trace

2100 - 2115 Dolomite, very light- and light-gray, microcrystalline (dolosiltite). Dolomite, light- and medium-brown, fine-grained, very finely and finely crystalline

2115 - 2142 Dolomite as above. Sandstone, very fine- and fine-grained, glauconitic; trace

2142 - 2178 Dolomite, very light-gray, brown, microcrystalline (dolomicrite and dolosiltite), slightly sandy (very fine- and fine-grained sand). Sandstone, very light-gray, very fine- to medium-grained, dolomitic; trace

2178 - 2193 Dolomite as above, pelletal in part, sandy to very sandy (very fine- to coarse-grained sand), grading into sandstone. KERBEL FORMATION at 2178 feet

2193 - 2219 Sandstone, very light-brownish-gray, fine- to coarse-grained (predominantly medium), dolomitic, very friable

2219 - 2252 Sandstone as above, in part light gray, very fine grained

2252 - 2274 Sandstone, light-gray, brownish-gray, predominantly fine-grained, very friable. Siltstone, light-grayish-brown; trace

2274 - 2306 Sandstone, light-gray, very fine- to medium-grained (predominantly fine), glauconitic; pinkish in part. Siltstone as above, dark brown in part, trace. CONASAUGA FORMATION at 2274 feet

2306 - 2328 Sandstone, very light- and light-gray, light- and medium-brown, very fine-grained, glauconitic, silty; 60%. Shale, medium-greenish-

gray, brown, silty, micaceous; 40%

2328 - 2340 Sandstone as above, fine grained in part, grading into siltstone, 60%. Shale as above, red in part, 30%. Dolomite, very light-gray, finely crystalline, glauconitic, hematitic; 10%

2340 - 2352 Sandstone, very light-pinkish-gray to yellowish-gray, light-gray, brown, very fine-grained, silty, glauconitic; 80%. Dolomite as above, 20%

2352 - 2379 Sandstone, light-pinkish-brown, grayish-brown, very fine- and fine-grained, glauconitic. Shale, medium-greenish-gray, very silty; heavy trace. Siltstone, light- and medium-greenish-gray; trace

2379 - 2400 Dolomite, very light-gray, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite), sandy to very sandy; pelletal in part (fine-grained, grain-supported); grading into sandstone; 70%. Sandstone, very fine- and fine-grained, much medium-grained sand; 30%. ROME FORMATION at 2375 feet (GRN)

2400 - 2415 As above, dolomite in part very finely crystalline

2415 - 2446 Dolomite, very light-brownish-gray to light-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- to coarse-grained sand); some pellets; 80%. Sandstone, predominantly very fine- and fine-grained, dolomitic; 20%

2446 - 2466 Dolomite as above, 50%. Sandstone as above, fine and medium grained, 50%

2466 - 2478 Sand, very fine- to coarse-grained (predominantly coarse), angular to rounded and frosted; broken in part

2478 - 2489 Sandstone, light-brownish-gray, very fine- to coarse-grained (predominantly fine)

2489 - 2500 Sandstone, light-pinkish-gray, gray, light- and medium-brown, very fine- and fine-grained, slightly glauconitic and micaceous, silty; grading into siltstone. Shale, dark-gray, brown, slightly micaceous, very silty; heavy trace

2500 - 2545 Sandstone, light-pinkish-gray, light-grayish-brown, very fine- and fine-grained, slightly glauconitic; some medium-grained sand. Siltstone, medium-brown and grayish-brown; heavy trace. Shale as above, trace

2545 - 2557 Sand, fine-grained, very slightly glauconitic. Siltstone, medium-brownish-gray; heavy trace

2557 - 2576 Sandstone, light-pinkish-brown, light-brown, brownish-gray, very fine- and fine-grained, slightly glauconitic, very friable

2576 - 2588 Sandstone as above, fine to coarse grained (predominantly fine), 95%. Dolomite, medium-brown, microcrystalline (dolomicrite), pelletal (very fine- and fine-grained, grain-supported), sandy (very fine-grained sand); 5%

2588 - 2617 Dolomite, light- to dark-brown, microcrystalline (dolomicrite), sandy (very fine- to medium-grained sand); pelletal (fine- and medium-grained, mud- and grain-supported, spherical and oblong) in large part; in small part grading into sandstone. Sandstone, very light-pinkish-gray and light-brown, fine- to coarse-grained; heavy trace

2617 - 2634 As above, dolomite in part oolitic

2634 - 2648 Sandstone, light-pinkish-gray, very fine- to coarse-grained (predominantly medium), very friable

2648 - 2661 Sandstone as above, 90%. Dolomite, light-brown to light-grayish-brown, microcrystalline (dolomicrite), pelletal (fine-grained, grain-supported), sandy; grading into sandstone; 10%

2661 - 2669 Dolomite as above, grading into sandstone, 80%. Sandstone, light-pinkish-gray, fine- and medium-grained; 20%

2669 - 2680 Dolomite as above, 70%. Sandstone as above and medium- and coarse-grained sand, 30%

2680 - 2725 Sandstone and sand as above, 70%. Dolomite as above, 30%. MT. SIMON SANDSTONE at 2685 feet

2725 - 2820 Sand, fine- to coarse-grained (predominantly medium). Sandstone, light-pinkish-gray, fine-grained; trace. Dolomite as above, trace to 2735 feet

2820 - 2857 Sand, fine- to very coarse-grained (predominantly coarse-grained from 2833 to 2857 feet), angular to rounded and frosted

2857 - 2867 Granite, 70%. Sand as above, 30%. PRECAMBRIAN at 2860 feet

2867 - 2870 Granite. Sand as above, trace

TD samples 2870 feet

KENTUCKY WELL — Commonwealth Gas Co. #1 Newell
Greenup County — Elevation (KB) 1054 feet

Depth (ft)

3300 - 3340 Limestone, very light- and light-brown, micrograined (dolomicrite); minor amount very finely crystalline; sucrosic in part

3340 - 3350 Dolomite, very light-gray, microcrystalline (dolosiltite), sandy (very fine- and fine-grained sand), silty. Chert, white; heavy trace (misplaced sample)

3350 - 3390 Limestone as in sample from 3300 to 3340 feet, very fine grained in part

3390 - 3400 Limestone as above. Shale, light-green, silty, pyritic; heavy trace. Dolomite, very light-gray to greenish-gray, microcrystalline (dolosiltite), silty; trace

3400 - 3420 Dolomite, white to light-yellowish-gray, very finely to medium-crystalline, slightly silty and sandy (very fine-grained sand); shown to be dolosiltite under petrographic microscope. KNOX DOLOMITE at 3400 feet

3420 - 3440 Dolomite as above, very light brown in part. Sand, fine- to coarse-grained, rounded; trace. Chert, very light-gray; trace

3440 - 3460 Dolomite, very light-brown, microcrystalline (dolomicrite). Chert, very light-gray; trace

3460 - 3470 Dolomite, very light-gray and brown, microcrystalline and very finely crystalline (dolomicrite and dolosiltite); slightly sandy in part; cherty matrix; in part fractured, microfractures filled with sparry dolomite. Chert, white; trace

3470 - 3480 Dolomite, very light-brown, microcrystalline (dolomicrite)

3480 - 3500 Dolomite, very light- to light-gray, microcrystalline (dolomicrite), silty

3500 - 3510 Dolomite, very light- to light-brown, microcrystalline (dolomicrite or dolosiltite), slightly glauconitic; in small part containing light-bluish-green clay in matrix. Chert, colorless, white, light-brown and pink; in part with crinkly laminations (algal?); minor

3510 - 3580 Dolomite as above

3580 - 3590 Dolomite as above. Chert, very light-brown and gray, translucent; trace

3590 - 3600 Dolomite, light-brown, slightly pinkish, microcrystalline (dolosiltite); some white chert finely disseminated in matrix; in part laminated. Dolomite, very light-gray, microcrystalline (dolosiltite), slightly glauconitic; trace. Chert, very light-gray and light-brown;

heavy trace

3600 - 3610 Dolomite, light-brown, microcrystalline (dolosiltite). Chert, white and very light-gray; trace

3610 - 3620 As above, dolomite in part siliceous and cherty

3620 - 3650 Dolomite, light-brown, microcrystalline (dolosiltite), slightly pyritic. Shale cavings common

3650 - 3660 Dolomite, very light-brown, very finely crystalline (some dolomicrite in matrix). Chert, very light-gray; trace

3660 - 3670 Dolomite, light- to medium-brown, microcrystalline. Shale cavings common

3670 - 3680 Dolomite, very light-gray, microcrystalline (dolosiltite), silty to very silty. Dolomite as above, trace. Shale cavings

3680 - 3710 Sandstone, very light-gray, fine- to coarse-grained, siliceous; grains subrounded and rounded. ROSE RUN sandstone at 3680 feet

3710 - 3720 Sand, predominantly fine- and medium-grained, rounded. Dolomite, light-brown and light-gray, microcrystalline (dolosiltite), sandy. Sandstone as above, minor. Chert, white and very light-gray; trace

3720 - 3730 Misplaced sample. Shale cavings predominant. Dolomite as in sample from 3670 to 3680 feet

3730 - 3740 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline (dolosiltite); part of dolomite covered with light-green clay. Sand and sandstone as above, trace. Chert, very light-gray, oolitic(?); trace

3740 - 3750 Dolomite as above, cherty in part. Chert as above, trace

3750 - 3760 Dolomite, very light-gray, microcrystalline and very finely crystalline (dolosiltite); cherty in part. Chert, white, with pseudomorphs after calcite or dolomite; heavy trace

3760 - 3770 Dolomite, very light-gray to brownish-gray, microcrystalline (dolomicrite?) to finely crystalline. Sand, medium-grained, broken (subangular and rounded); heavy trace. Pyrite, trace. Cavings

3770 - 3800 Dolomite, very light- and light-gray to brown-gray and brown, microcrystalline (dolosiltite)

3800 - 3810 Dolomite, very light-gray, microcrystalline (dolosiltite) and very finely crystalline. Chert, white, oolitic or pelletal; trace. Pyrite, trace

3810 - 3820 Dolomite as above, very light gray to light brownish gray. Pyrite, trace

3820 - 3830 Dolomite as above, sandy (rounded fine- and medium-grained sand)

3830 - 3840 Dolomite as above. Pyrite, trace. Dolomite crystals, trace. Chert, white; trace

3840 - 3850 Dolomite as above. Pyrite, heavy trace

3850 - 3860 Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite); microsucrosic in part

3860 - 3870 Dolomite as above. Chert, white, oolitic; trace

3870 - 3890 Dolomite as above, microcrystalline (dolosiltite) and very finely crystalline; microsucrosic in part; probably oolitic. Chert, white, oolitic; with crinkly laminations in part

3890 - 3900 Dolomite, very light- and light-brown and grayish-brown, microcrystalline (dolomicrite). Chert, white; oolitic in part; heavy trace

3900 - 3910 Dolomite as above

3910 - 3950 Dolomite as above, very light brown

3950 - 3960 Dolomite, very light-gray, microcrystalline (dolomicrite). Dolomite, light-brown, very finely crystalline; some pellets; minor. Chert, white; trace

3960 - 3980 Dolomite, very light-grayish-brown, microcrystalline (dolomicrite). Dolomite as above, very finely crystalline, trace

3980 - 4000 Dolomite, very light-gray and light-brown, microcrystalline (dolosiltite); microsucrosic in part

4000 - 4020 Dolomite, very light-grayish-brown to medium-brown, microcrystalline; mostly dolosiltite with some microsucrosity, minor amount dolomicrite

4020 - 4120 Dolomite as above. Chert, white, very light-gray; trace to 4030 feet

4120 - 4160 Shale cavings predominant. Dolomite as above.

4160 - 4170 Dolomite as above, very finely crystalline in part; much of sample covered with reddish stain and greasy-looking (salt-water zone?)

4170 - 4180 Dolomite as above. Chert, transparent, recrystallized; trace

4180 - 4190 Dolomite, light-yellowish-gray and very light-yellowish-brown, microcrystalline (dolomicrite)

4190 - 4200 Dolomite, light-yellowish-brown to medium-brown, microcrystalline (dolomicrite and dolosiltite)

4200 - 4240 Dolomite as above, light yellowish gray to light brown. Dolomite crystals, heavy trace

4240 - 4260 Dolomite as above. Chert, light-brownish-gray; trace

4260 - 4270 Dolomite as above

4270 - 4280 Dolomite, white and very light-gray, microcrystalline and very finely crystalline (may be fine grained). Dolomite, medium-brown, microcrystalline(?)

4280 - 4300 Dolomite, white and very light gray as above, becoming very light grayish brown at 4290 feet

4300 - 4310 Dolomite, light-grayish-brown to medium-brown, microcrystalline (dolomicrite and dolosiltite)

4310 - 4340 Dolomite as above. Chert, transparent, recrystallized; trace

4340 - 4350 Dolomite as above, medium brown

4350 - 4390 Dolomite, very light-gray and medium-brown, microcrystalline (dolomicrite and dolosiltite)

4390 - 4400 Dolomite, light- and medium-brown, microcrystalline

4400 - 4430 Dolomite as in sample from 4350 to 4390 feet

4430 - 4440 Dolomite, very light-gray and medium-brown, microcrystalline (dolosiltite); some medium-grained pellets. Chert oolites, medium-grained; trace

4440 - 4450 Dolomite, very light- and light-gray, microcrystalline

4450 - 4470 Dolomite as above. Dolomite, light- and medium-brown. Chert, white, and transparent, recrystallized; trace

4470 - 4480 Dolomite as above

4480 - 4490 Dolomite, light-yellowish-brown to medium-brown, microcrystalline (dolosiltite); floating medium-grained dark-brown oolites in sample

4490 - 4510 Dolomite as above

4510 - 4520 Cavings predominant. Dolomite as above.

4520 - 4540 Dolomite as above (dolomicrite and dolosiltite)

4540 - 4550 Dolomite as above, slightly glauconitic

4550 - 4560 Dolomite as above. Dolomite, very light-gray to brownish-gray, microcrystalline (dolomicrite), pelletal (medium- and coarse-grained, dark-brown, pellet-supported); trace

4560 - 4580 Dolomite as in sample from 4520 to 4540 feet

4580 - 4610 Dolomite as above. Dolomite, medium-brown, slightly grayish, microcrystalline, very silty, slightly argillaceous

4610 - 4630 Dolomite as above. Shale, dark-gray to brownish-gray and greenish-gray, silty. CONASAUGA FORMATION at 4610 feet

4630 - 4640 Shale as above. Dolomite, white, light- and medium-gray, light- and medium-brown, microcrystalline, slightly glauconitic; fine to

coarse grained in part; some pellets (probably dolomitized biocalcarenite)

4640 - 4660 Shale, medium- and dark-gray, greenish-gray, and brownish-red, silty. Dolomite as above, subequal to minor

4660 - 4670 As above. Siltstone, light-yellowish-brown, slightly dolomitic, slightly glauconitic

4670 - 4680 Shale as above. Limestone, white, light- and medium-gray, medium-brown; lithographic in part; bioclastic or fossiliferous in part. Siltstone as above, trace. Dolomite, medium-brown, microcrystalline and very finely crystalline; trace

4680 - 4730 Shale as above. Limestone as above, minor to trace. Dolomite as above, trace

4730 - 4740 Shale, medium- and dark-gray, greenish-gray, and dark-brown to reddish-brown; silty in part. Dolomite, very light- and light-gray and brown, microcrystalline and very finely crystalline, silty; minor

4740 - 4750 Dolomite, white to very light-brownish-gray, microcrystalline and very finely crystalline, probably bioclastic, slightly glauconitic. Shale as above, minor. Dolomite, light-brown and grayish-brown, microcrystalline, silty; trace

4750 - 4770 Dolomite, microcrystalline and very finely crystalline as above; very glauconitic in part; light brown in part; micaceous in part. Shale as above, micaceous, trace

4770 - 4780 Dolomite, white to light-grayish-brown, microcrystalline and very finely crystalline, glauconitic, silty; micaceous in part. Shale, medium- and dark-gray, brownish-gray, greenish-gray; micaceous and silty in part; minor

4780 - 4790 As above. Siltstone, very light-brownish-yellow to pinkish-yellow, slightly dolomitic

4790 - 4810 Dolomite, white, microcrystalline (dolomicrite, some dolosiltite), sandy to very sandy (very fine- to medium-grained sand). Dolomite, light-brown, microcrystalline (dolomicrite). Top of ROME FORMATION in Ohio

4810 - 4890 Dolomite as above, white, slightly sandy to sandy; becoming in minor part very light gray and brown

4890 - 4900 Dolomite as above, white, very light brownish gray and very light gray

4900 - 4920 Dolomite, very light-brown, microcrystalline (dolomicrite), pelletal(?) slightly sandy (very fine- and fine-grained sand); pelletal in part

4920 - 4960 Dolomite as above. Cavings common

4960 - 5005 Dolomite as above, very sandy in part (very fine-grained sand), grading in part into sandstone. Dolomite, light- and medium-brown, microcrystalline (dolosiltite); at 4990 feet becoming sandy to very sandy (very fine- to medium-grained sand) in small part. Cavings

5005 - 5010 As above. Dolomite as in sample from 4900 to 4920 feet, oolitic (medium-grained), trace (one piece)

5010 - 5020 Dolomite as above. Sandstone, pinkish-yellow, very fine-grained, trace

5020 - 5030 Dolomite as above, very sandy, grading into fine-grained sandstone. Sandstone as above, trace

5030 - 5035 As above, sand in dolomite very fine to medium grained

5035 - 5040 Sandstone, fine- and medium-grained; dolomitic in part

5040 - 5050 Dolomite, white to medium-brown, microcrystalline, slightly to very sandy (predominantly very fine- and fine-grained sand). Sandstone, pinkish-yellow and light-yellowish-gray, fine-grained; minor

5050 - 5080 As above, some oolites (fine- and medium-grained, sand-centered, with radial and zoned structure) in dolomite

5080 - 5100 Sandstone, pinkish-yellow, very fine- and fine-grained. Sand, medium- and coarse-grained, subrounded. Dolomite, light-gray and medium-brown, microcrystalline, oolitic; trace. MT. SIMON SANDSTONE

5100 - 5110 Sand and sandstone as above

5110 - 5130 As above. Sandstone, light-gray, fine- and medium-grained

5130 - 5190 Sandstone as above, slightly glauconitic in part. Fragments of red rock ("wash"), glauconitic(?), chloritic; trace; becoming minor at 5170 feet

5190 - 5195 As above. Biotite, heavy trace. PRECAMBRIAN?

TD samples 5195 feet

MICHIGAN WELLS
Monroe County
Section 16
T. 7 S., R. 6 E.

Ferguson & Garrison #1 Shimp
P-25494
Elevation 686 feet

Depth (ft)

2733 - 2744 Limestone, very light-yellowish-brown to medium-brown, micrograined (dolosiltite). Shale, medium-gray; trace

2744 - 2748 Shale as above. Sand, medium-grained, predominantly rounded and frosted. Siltstone, very light-gray, very dolomitic; heavy trace

2748 - 2757 Sand, fine- to coarse-grained (predominantly medium), rounded and frosted to angular (broken). Dolomite, light-gray, microcrystalline (dolosiltite), silty; minor. Shale, medium- and dark-gray; greenish in part; heavy trace

2757 - 2762 As above, dolomite sandy

2762 - 2770 Dolomite, light-yellowish-gray, microcrystalline (dolosiltite). Sand as above, minor

2770 - 2776 Dolomite as above. Sand as above, trace

2776 - 2800 Dolomite as above. Shale, very light-green, very dolomitic; trace in streaks

2800 - 2813 Dolomite as above. Dolomite, very light-brown to grayish-brown, very slightly glauconitic, becoming very sandy (very fine-grained sand) and silty at 2800 feet

2813 - 2827 Dolomite as above, very sandy and silty, light and medium gray in part

2827 - 2840 Dolomite, very light-grayish-brown, microsucrosic; some fine-grained pellets

2840 - 2857 Dolomite as above. Dolomite, light-brown to very light-grayish-brown, microcrystalline (dolosiltite)

2857 - 2867 Dolomite as above, very silty in part

2867 - 2894 Dolomite as in sample from 2840 to 2857 feet

2894 - 2955 Dolomite, very light-brown, microcrystalline (dolomicrite and dolosiltite)

2955 - 2960 Dolomite as above, light brown

2960 - 2968 Dolomite, light-grayish-brown, microcrystalline (dolosiltite), very silty; possibly grading into micaceous siltstone

2968 - 2981 Dolomite, very light- and light-gray and brown, microcrystalline (dolosiltite); silty in part

2981 - 2992 Dolomite as above. Dolomite, medium-gray, very silry, argillaceous, micaceous; trace

2992 - 3007 Siltstone, very light-brown, very dolomitic

3007 - 3016 Siltstone as above. Siltstone, light-gray and grayish-brown, slightly glauconitic, sandy (very fine-grained sand)

3016 - 3032 Dolomite, very light-brown to light-gray, microcrystalline to medium-crystalline, sandy (very fine-grained sand), fossiliferous (bioclastic)

3032 - 3039 Dolomite as above, very sandy. Sand, fine-grained, angular

3039 - 3041 Sand, fine-grained, angular to subrounded
3041 - 3051 Sandstone, very light-brown, very fine- to coarse-grained (predominantly very fine and fine), dolomitic
3051 - 3060 As above(?), rusty sample
3060 - 3075 Sand, fine- to coarse-grained (predominantly medium), angular to rounded and frosted (predominantly subrounded), rusty
3075 - 3103 Sand as above, predominantly fine grained
3103 - 3123 Sandstone, white, predominantly fine grained
3123 - 3131 Sandstone, very light-gray to brownish-gray, very fine-grained, slightly dolomitic; with argillaceous partings
3131 - 3140 Sandstone as above, very slightly glauconitic
3140 - 3155 Sandstone as above. Shale, dark-gray, very silty, micaceous
3155 - 3163 Shale as above. Dolomite, very light- and light-brown, microcrystalline (dolosiltite), silty
3163 - 3173 Dolomite as above. Dolomite, white, very finely and finely crystalline, hematitic, slightly glauconitic. Shale, dark-brown, very silty, very dolomitic; trace
3173 - 3175 As above. Sand, fine- and medium-grained, angular to rounded and frosted; heavy trace
3175 - 3180 Siltstone, light-brownish-gray and gray, very slightly glauconitic. Dolomite as above, minor
3180 - 3185 Siltstone as above. Dolomite as above, trace
3185 - 3193 Siltstone (possibly very fine-grained sandstone), light-brown and light- to medium-brownish-gray
3193 - 3212 Dolomite, very light-grayish-brown to light-gray, microcrystalline (dolosiltite), oolitic (medium-grained), pelletal (fine-grained, mud-supported), silty, sandy. Sand, fine- and medium-grained, subangular to rounded and frosted (predominantly subangular); minor
3212 - 3215 Dolomite as above. Sand as above
3215 - 3216 Sand as above
3216 - 3219 Sand as above. Dolomite as in sample from 3193 to 3212 feet; minor
3219 - 3223 Sand as above, some coarse grains
3223 - 3259 Sand, very fine- and fine-grained, angular to rounded and frosted (predominantly angular); some medium grains
3259 - 3267 Sand, very fine- to medium-grained, angular to subrounded. Sandstone, light-gray, fine- and medium-grained; trace
3267 - 3275 Sand, very fine- and fine-grained
3275 - 3283 Sand, fine- and medium-grained, predominantly subangular. Sandstone, very light-gray, fine- and medium-grained; shaly partings; minor
3283 - 3309 Sandstone as above. Shale, dark-red, silty; trace
3309 - 3331 Sandstone, light- to medium-gray, very fine- and fine-grained, very dolomitic, glauconitic, argillaceous. Sand, fine-grained
3331 - 3348 As above, sandstone nondolomitic
3348 - 3355 Sandstone, medium- to dark-gray, very fine-grained, slightly glauconitic, argillaceous. Sand as above, minor
3355 - 3404 Sand, fine- to coarse-grained (predominantly medium), angular to subrounded, predominantly subangular. MT. SIMON SANDSTONE
3404 - 3406 Sand as above, coarse grains predominantly rounded and frosted
3406 - 3424 Sand, fine- and medium-grained, predominantly angular and subangular
3424 - 3427 As in sample from 3404 to 3406 feet
3427 - 3437 As in sample from 3406 to 3424 feet
3437 - 3445 Sand, fine- to coarse-grained, predominantly subangular; coarse grains generally rounded and frosted
3445 - 3488 Sand, fine- and medium-grained, predominantly subangular; some rounded and frosted coarse grains
3488 - 3494 Sand as above, predominantly fine grained
3494 - 3612 Sand as above, predominantly fine and medium grained
3612 - 3634 Sand, fine- to very coarse-grained, poorly sorted, angular to rounded and frosted
3634 - 3645 Sand as above. Biotite, chlorite (soft light-green clay), feldspar. PRECAMBRIAN at 3640 feet(?)
3645 - 3671 As above, gneiss(?)
TD samples 3671 feet

Wayne County
Section 22
T. 4 S., R. 10 E.

Marathon Oil Co. #1 (Woodhaven)
Brine Disposal
BD #146
Elevation 609 KB (GR-SNP; FDC)

Depth (ft)
3200 - 3220 Limestone, very light-grayish-brown to medium-brown, lithographic; very fine grained in part
3220 - 3230 Dolomite, light- to medium-brown, very finely and finely crystalline. Limestone as above, minor
3230 - 3240 Limestone and dolomite as above. Sandstone, pink and light-gray to white, fine-grained; very fine glauconite
3240 - 3260 Sandstone as above, largely very light gray, only very slightly glauconitic
3260 - 3290 Sandstone as above, some rounded and frosted coarse and very coarse grains. Limestone and dolomite as above, minor (cavings?)
3290 - 3310 Sandstone, pinkish-yellow, fine-grained
3310 - 3320 Sandstone as above. Sandstone, light-gray
3320 - 3330 Sandstone as above. Limestone and dolomite as above
3330 - 3343 Sandstone, light-brown, fine-grained, glauconitic. Limestone and dolomite as above, minor
Core chips to 3412 feet
3343 - 3346 Sandstone, pinkish-yellow and very light-gray, fine- and medium-grained
3346 - 3355 No samples
3355 - 3360 Sandstone, light-brown, very fine- and fine-grained
3360 - 3365 Sandstone as above, slightly glauconitic
3365 - 3378 Sandstone as above, laminated with light-gray sandstone
3378 - 3382 Sandstone, light-brown and gray, fine- and medium-grained, dolomitic
3382 - 3403 Sandstone, light-brown to very light-gray, very fine- and fine-grained
3403 - 3406 Sandstone as above, very fine to medium grained. Sandstone, very light-brown, very fine-grained, dolomitic; minor
3406 - 3412 Sandstone as above, very light brown
3412 - 3430 Dolomite, light yellowish-gray, microcrystalline (dolomicrite and dolosiltite)
3430 - 3450 Dolomite, light- and medium-gray, microcrystalline (dolosiltite), pelletal (fine-grained, grain-supported), sandy to very sandy (fine- to coarse-grained sand)
3450 - 3470 Sandstone, very light-brown to light-gray, very fine- to coarse-grained. MT. SIMON SANDSTONE
3470 - 3480 Sandstone, very light-brown, fine- and medium-grained (predominantly fine)
3480 - 3510 Sandstone, very light-brown and gray and pinkish-yellow, fine- to coarse-grained (predominantly coarse)
3510 - 3530 Sandstone, light-gray and very light-brown, fine-grained

Core chips to 3650 feet

3530 - 3558 Sandstone, light-gray, fine- and medium-grained; laminated with shaly partings
3558 - 3568 Sandstone as above, some coarse grains
3568 - 3572 Sandstone as above, medium gray, interbedded with medium-brown pellets and sandy dolomite
3572 - 3574 Sandstone, very light-gray to pinkish-yellow, fine- and medium-grained
3574 - 3582 Sandstone, coarse-grained, light- to medium-gray to brownish-gray
3582 - 3590 Sandstone, light-yellowish-gray to pinkish-gray, fine- and medium-grained. Anhydrite(?), pink; trace
3590 - 3660 Sandstone as above. Sandstone, light-gray, fine- to coarse-grained
3660 - 3690 Sandstone as above, predominantly coarse grained
3690 - 3700 Sandstone as above, fine to very coarse grained
3700 - 3710 Sandstone as above, with orthoclase in conglomerate
3710 - 3715 Granite gneiss(?). Sandstone as above, trace. PRECAMBRIAN
3715 - 3755 Gneiss(?) as above

TD samples 3755 feet

CANADIAN WELLS
Elgin County
Offshore, Lake Erie
Lat. 42° 22' 00" N.
Long. 80° 49' 30" W.

The Consumers Gas Co. and Pan American Petroleum Corp. #13039
Elevation (KB) 613 feet

Depth (ft)

3950 - 3990 Cavings, Cincinnatian, 99%. Limestone, very light- and light-brown, micrograined; microsucrosic in part
3990 - 4000 Cavings, 60%. Limestone as above, very light gray in part, fine grained in part
4000 - 4030 Limestone as above
4030 - 4050 Cavings, 99%. Limestone, light-brown, micrograined
4050 - 4080 As above, light-green siltstone in samples possibly in place or possibly cavings
4080 - 4100 Limestone as above. Dolomite, white, microcrystalline (dolosiltite). Cavings
4100 - 4105 Cavings. Dolomite, white and light- and medium-brown, microcrystalline (dolosiltite). Sand, fine-grained, generally rounded and frosted; heavy trace. Pyrite, trace. KNOX DOLOMITE at 4084 feet (GRN)

At 4105 feet sample size increases from fine to normal (up to pebble size), and cavings are absent

Cored from 4105-4165 feet

4195 - 4106 Dolomite, medium-brown (stained with dead oil? in part), microcrystalline (dolosiltite), sandy (fine- and medium-grained sand), pelletal (grain-supported, fine- to coarse-grained, medium-brown in clear matrix); slight pinpoint porosity
4106 - 4107 Dolomite, light-grayish-brown, microcrystalline (dolosiltite), slightly pyritic; slight vuggy porosity
4107 - 4108 Dolomite as in sample from 4105 to 4106 feet, nonsandy, pellets in large part obliterated
4108 - 4109 Dolomite as above. Siltstone, very light-gray, very slightly dolomitic
4109 - 4110 Dolomite, light-brown, finely and medium-crystalline, pelletal, sandy (very fine-grained sand)
4110 - 4113 Dolomite, light-grayish-brown, microcrystalline (dolosiltite). Dolomite, very light-brownish-gray, very finely crystalline, sucrosic
4113 - 4114 Dolomite, very light-brown and light-gray, very finely to medium-crystalline, sandy; laminae of light-green pyritic clay. Sandstone, very light-gray, very fine- and fine-grained, silty, slightly glauconitic; heavy trace
4114 - 4117 Dolomite, light-brown (oil-stained), microcrystalline(?); good pinpoint porosity; some vuggy porosity; may be pelletal, but pellets(?) resemble anhedral crystals
4117 - 4118 Dolomite, very light-grayish-brown, finely and medium-crystalline, sucrosic, slightly glauconitic, pyritic, sandy (very fine- and fine-grained sand)
4118 - 4120 Dolomite, light-brown (slightly oil-stained), finely crystalline, slightly glauconitic, slightly sandy; probably pelletal as in sample from 1414 to 1417 feet; some pinpoint porosity
4120 - 4121 Sandstone, very light-brownish-gray (slightly oil-stained), very fine- and fine-grained, slightly glauconitic, dolomitic to very dolomitic
4121 - 4122 Sandstone as above. Dolomite, very light- and light-brown, very finely and finely crystalline, sandy; green pyritic shale partings
4122 - 4123 Dolomite as above. Sandstone, trace
4123 - 4124 Dolomite, very light- to medium-brown and grayish-brown, microcrystalline (dolosiltite), silty; very pyritic in part; trace of enhedral dolomite in sample
4124 - 4125 Sandstone, very light-brown, very fine-grained; very dolomitic in part
4125 - 4126 Sandstone as above, grading into very sandy light-brown dolomite
4126 - 4127 Dolomite, light-brown (oil-stained), very finely and finely crystalline, sandy; good pinpoint porosity; may be pelletal
4127 - 4128 Dolomite, dark-brown (oil-stained), finely crystalline, pelletal (fine- and medium-grained, grain-supported), slightly sandy (very fine- and fine-grained sand); some pinpoint porosity
4128 - 4129 Dolomite, light-brown, finely crystalline, pelletal(?), slightly pyritic; with euhedral dolomite as cavity fillings
4129 - 4130 Dolomite as above, very sandy, grading into very fine- and fine-grained sandstone
4130 - 4131 Dolomite, light-brown, microcrystalline (dolosiltite)
4131 - 4132 Sandstone, very light-gray to brownish-gray, very fine- and fine-grained, slightly dolomitic
4132 - 4134 Dolomite as in sample from 4127 to 4128 feet, good pinpoint porosity
4134 - 4135 Dolomite and sandstone as in sample from 4129 to 4130 feet
4135 - 4136 As above, medium and dark brown. Chert, very light-brown, pelletal, sandy, recrystallized; some oolites; heavy trace
4136 - 4137 Dolomite, medium-brown (oil-stained), finely crystalline, pelletal(?), sandy (very fine-grained sand)
4137 - 4138 Dolomite as above. Dolomite, medium-brown, microcrystalline (dolosiltite), sandy (very fine sand)
4138 - 4139 Dolomite, light-brown, finely crystalline, pelletal(?), sandy (very fine- to coarse-grained sand)
4139 - 4140 Sandstone, white to light-yellowish-gray, very fine- and fine-grained, siliceous
4140 - 4141 Dolomite, light- to medium-grayish-brown, microcrystalline (dolomicrite) and very finely crystalline (one as irregular patches in the other), very silty (supratidal dolomite?)
4141 - 4142 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), pelletal(medium-grained), sandy (very fine-grained sand). Anhydrite,

anhedral; as clusters in dolomite and loose; heavy trace

4142 - 4144 Dolomite as above, very sandy, some sand-centered medium-grained oolites

4144 - 4145 Dolomite, light-brown, finely crystalline, pelletal(?); very sandy; patches of dolomicrite; grading into fine-grained sandstone

4145 - 4146 Sandstone, white, very fine- and fine-grained, siliceous. Sandstone, medium-brown, very fine- and fine-grained, very dolomitic; minor

4146 - 4147 Sandstone, very light-brown, medium- and coarse-grained, dolomitic; grains subrounded and rounded, frosted in part

4147 - 4148 Sandstone, poorly sorted, very fine- to coarse-grained, silty; light-green clay in dolomitic matrix recrystallized to give sandstone the appearance of a finely sucrosic dolomite

4148 - 4149 Sandstone, white, very fine- to coarse-grained, siliceous

4149 - 4150 Dolomite, light-grayish-brown, microcrystalline (dolomicrite), oolitic and pelletal (medium-grained, very closely grain-supported, some oolites sand-centered), silty

4150 - 4151 Dolomite, medium-brown, very finely and finely crystalline, silty, sandy (fine-grained); some pellets(?)

4151 - 4156 Dolomite, very light- and light-grayish-brown (very fine- and fine-grained), microcrystalline (dolosiltite) to finely crystalline, very sandy; some glauconite(?); grading into fine- and medium-grained (predominantly fine) sandstone

4156 - 4157 Sandstone, white, very fine- and fine-grained, siliceous

4157 - 4158 Dolomite, very light-yellowish-brown to light-brown, microcrystalline (dolomicrite) pelletal and oolitic (grain-supported, fine- and medium-grained), calcitic; much crystalline calcite; may be conglomeratic

4158 - 4159 Dolomite, medium-brown, slightly grayish, microcrystalline (dolosiltite), silty; several pieces showing sharp contact with sandstone. Sandstone, white, very fine-grained; heavy trace

4159 - 4160 Dolomite as above, medium brown, sandy to very sandy. Sandstone as above, trace

4160 - 4161 Dolomite, medium-brown, fine- to coarse-grained (dolarenite, grains including pellets and oolites), sandy; some pieces showing sharp contact with sandstone. Sandstone, white to very light-greenish-gray, very fine-grained, siliceous; 20%

4161 - 4162 Sandstone, light-grayish-brown to brownish-gray, very fine- to coarse-grained, poorly sorted, dolomitic; fine-grained white oolites or pellets

4162 - 4163 Dolomite, light- and medium-brown, microcrystalline (dolosiltite). Silica-replaced dolomite, very light-brown, microcrystalline (dolosiltite), sandy; mottled medium and dark brown; heavy trace

4163 - 4164 Dolomite, light-brown, microcrystalline (dolosiltite), pelletal (medium-grained, grain-supported); with fair pinpoint porosity

4164 - 4165 Dolomite, medium-brown, microcrystalline (dolosiltite), sandy to very sandy (very fine- and fine-grained sand)

Base of core

4165 - 4170 Dolomite, light-brown, microcrystalline (dolosiltite) and very finely crystalline, very sandy (very fine- and fine-grained), slightly glauconitic

4170 - 4190 Dolomite, very light-yellowish-brown, microcrystalline (dolosiltite), sandy to very sandy, grading into sandstone. Sandstone, fine- to coarse-grained; grains generally rounded. CONASAUGA FORMATION at 4170 feet

4190 - 4200 As above, predominantly poorly sorted very fine- to coarse-grained sandstone

4200 - 4210 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite), sandy (very fine-grained); some fine- to coarse-grained pellets, some showing radial structure after replacement by bluish-green clay-glauconite(?). Sandstone and sandy dolomite as above, minor

4210 - 4220 Dolomite, very light- to medium-brown, sandy to very sandy (very fine- to coarse-grained sand); glauconitic(?) as above; some pellets and oolites. Sandstone as above, heavy trace

4220 - 4230 Dolomite, medium-brown, microcrystalline (dolomicrite), very sandy (fine-grained sand). Sandstone, light-yellowish-gray, fine-grained, dolomitic; some pieces showing sharp contact between the dolomite and sandstone. Dolomite as above, heavy trace

4230 - 4240 Sandstone, light-yellowish-gray to very light-brownish-gray, fine- to coarse-grained (predominantly fine). Dolomite, medium-brown, finely crystalline (pelletal?), sandy (very fine- and fine-grained sand); minor

4240 - 4250 Sandstone as above. Dolomite, medium-grayish-brown, microcrystalline (dolosiltite), pelletal and oolitic (medium-grained), sandy to very sandy (fine- to coarse-grained sand)

4250 - 4260 As above, predominantly very sandy dolomite

4260 - 4270 Dolomite, dark-brown, microcrystalline (dolosiltite), sandy (very fine-grained sand). Dolomite as above, minor. Sandstone, light-yellowish-gray and light-brownish-gray, fine- and medium-grained; heavy trace

4270 - 4280 Dolomite, dark brown as above, silty, argillaceous. Shale, dark-brown; heavy trace

4280 - 4310 Dolomite as above. Sandstone, light-yellowish-gray and light- and medium-brownish-gray, very fine- and fine-grained. Shale as above, trace. Dolomite, very sandy, oolitic; trace

4310 - 4350 Sandstone, light-yellowish-gray, light-yellowish-brown to medium-brown, fine- and coarse-grained (predominantly fine); very dolomitic in part; grading into dolomite. Dolomite, medium-brown, oolitic and pelletal. Limestone, medium-brown, micrograined (dolomicrite), fossiliferous(?); trace; in place(?)

4350 - 4360 Sandstone, light-yellowish-gray, fine- to coarse-grained (predominantly medium), poorly sorted, siliceous

4360 - 4370 Dolomite, very light-brown to light-yellowish-brown, microcrystalline and very finely crystalline (dolosiltite in part), sandy (very fine-grained sand). Sandstone as above, heavy trace. ROME FORMATION at 4349 feet (GRN)

4370 - 4380 Dolomite as above, pelletal (medium-grained, grain-supported) in part

4380 - 4410 Dolomite as above, pink in part to 4390 feet

4410 - 4420 Dolomite as above, dolomicrite in part; pelletal (very fine- to medium-grained)

4420 - 4440 Dolomite as above, sand very fine to coarse grained

4440 - 4460 Dolomite as above, light gray in part, sandy to very sandy as above. Sandstone, fine- to coarse-grained; trace

4460 - 4470 Dolomite, very light-yellowish-brown to dark-brown, microcrystalline (dolomicrite and dolosiltite), oolitic and pelletal (fine- and medium-grained, grain-supported), slightly sandy (very fine- to medium-grained sand)

4470 - 4480 Dolomite, light-yellowish-gray to light-gray, microcrystalline, sandy to very sandy; pel-

letal and oolitic in part; grading into fine- and medium-grained sandstone
4480 - 4490 Dolomite as above, light brown in part
4490 - 4520 As above, predominantly sandstone, fine- to coarse-grained (grains broken). MT. SIMON SANDSTONE at 4490 feet
4520 - 4530 Sandstone as above. Sandstone, colorless, fine- to coarse-grained, siliceous
4530 - 4540 Gneiss; foliated biotite in quartz, plagioclase and accessories
TD samples 4540 feet

Essex County
Offshore, Lake Erie
Lat. 41°51'09" N.
Long. 82°59'30"W.

Amerada Hess #2 Amerada Hess-Essex
Elevation (KB) 618 feet

Depth (ft)

Poor samples
2600 - 2700 Limestone, very light-gray, light- and medium-brown, lithographic; recrystallized in part. Shale cavings
2700 - 2730 Shale, medium-gray to greenish-gray. Shale and limestone cavings
2730 - 2770 Shale and limestone cavings, more than 95%. Sandstone, light-pinkish-brown to very light-grayish-brown, fine-grained, slightly dolomitic, pyritic. KERBEL FORMATION at 2723 feet (GRN)
2770 - 2790 As above. Dolomite, very light- and light-gray, brown, microcrystalline (dolosiltite), trace. ROME FORMATION at 2763 feet (GRN)
2790 - 2820 Dolomite as above, sandy (fine- and medium-grained sand). Sandstone as above, trace. Cavings
2820 - 2830 Limestone, lithographic. Cavings
2830 - 2850 Sandstone, light-brown, fine- and medium-grained, dolomitic; some coarse-grained sand
2850 - 2860 Sand, fine- to coarse-grained, angular (broken) to rounded and frosted. Rose quartz and pyrite, trace
2860 - 2880 Sandstone, very light-brown, fine- to coarse-grained, very friable
2880 - 2920 Sandstone, very light-pinkish-brown, fine- and medium-grained, very friable, dolomitic
2920 - 2950 Dolomite, light-brown, microcrystalline (dolosiltite), sandy to very sandy (fine- and medium-grained sand); grading into sandstone
2950 - 3000 Sandstone, very light-pinkish-brown and light-brown, fine- to coarse-grained (predominantly medium), angular (broken) to rounded and frosted, very friable
3000 - 3020 Sand, medium-grained; broken in part; some pink grains
3020 - 3071 Granite or granite gneiss
TD samples 3071 feet

ADDITIONAL OHIO WELLS
Auglaize County
St. Marys Township
Section 22

West Ohio Gas #1 Hoelscher
Permit No. 71
Sample No. 2503
Elevation (KB) 896 feet

Depth (ft)
1600 - 1620 Limestone, white, light- and medium-brown, lithographic, slightly fossiliferous (ostracods), stylolitic; inclusions of dolomite crystals and sparry calcite
1620 - 1630 Limestone as above, argillaceous in part. Shale, light-green, silty, sandy (very fine- and fine-grained sand), dolomitic; grading into dolomite. Shale, dark-brown, dolomitic
1630 - 1640 Shale, sandy (very fine- to medium-grained sand). pyritic; green as above. Sandstone, light-gray, very fine-grained, silty. Limestone as above, heavy trace
1640 - 1650 No samples
1650 - 1660 Dolomite, very light-brown and gray, predominantly medium-crystalline, very slightly glauconitic; 80%. Shale and sandstone as above, 20%. KNOX DOLOMITE at 1650 feet (GRN)
1660 - 1680 Dolomite as above
1680 - 1690 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline and sucrosic, pyritic; sandy in part (very fine- and fine-grained). Dolomite as above, trace. Sandstone, light-gray, very fine-grained; trace
1690 - 1700 Dolomite as in samples from 1660 to 1680 feet and 1680 to 1690 feet
1700 - 1720 Dolomite, very light-gray, very light- and light-brown, predominantly medium-crystalline. Dolomite, light-gray, microcrystalline to medium crystalline, sandy (very fine- and fine-grained sand), slightly glauconitic; trace
1720 - 1750 Dolomite, light-brown, predominantly microcrystalline (dolosiltite); finely crystalline in part
1750 - 1770 Dolomite, very light- to medium-brown, microcrystalline (dolosiltite) and very finely crystalline; pelletal probably in large part; poor pinpoint to vuggy porosity
1770 - 1780 No samples
1780 - 1790 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite), very slightly sandy (very fine- to medium-grained sand)
1790 - 1800 Dolomite as above, not sandy. Chert, white, pelletal and oolitic; heavy trace
1800 - 1830 Dolomite as above, dolomicrite. Chert, light-gray; trace
1830 - 1860 Dolomite, light- and medium-brown, microcrystalline (dolomicrite and dolosiltite). Chert, white; recrystallized in part; trace from 1840 to 1860 feet
1860 - 1870 Dolomite, very light- and light-brown, microcrystalline to medium-crystalline; poor vuggy porosity in vugs lined with sparry dolomite. Chert as above, trace
1870 - 1880 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite); a few angular dolomite clasts
1880 - 1950 Dolomite, very light- to medium-brown, microcrystalline to finely crystalline; laminated in part; fine grained in part; poor pinpoint porosity in part
1950 - 1970 Dolomite as above, sucrosic in part
1970 - 2050 Dolomite as above. Dolomite, very light-brown to brownish-gray and gray, microcrystalline (dolosiltite). Pyrite, trace from 2000 to 2010 feet, 2040 to 2050 feet
2050 - 2080 Dolomite, very light- to medium-brown, very light-gray, predominantly microcrystalline (dolosiltite); very finely and finely crystalline in part; much sparry dolomite. Pyrite, trace to 2060 feet
2080 - 2100 Dolomite as above, predominantly very finely and finely crystalline
2100 - 2105 Dolomite, very light-gray, very light-brownish-gray, very finely and finely crystalline. Dolomite rhombs, trace. Pyrite, trace
2105 - 2110 As above, dolomite in part light and medium brown, with poor vuggy porosity
Core chips from 2110 to 2229 feet
2110 - 2111 Dolomite, light-brown, microcrystalline (dolosiltite); partings of greenish-gray shale
2111 - 2115 Dolomite, light-brown, very light-gray, finely and medium-crystalline, slightly glauconitic;

sucrosic in part; fair vuggy porosity; vugs filled with pyrite

2115 - 2117 Dolomite, light-brown, microcrystalline (dolosiltite); fair vuggy porosity; vugs lined with dolomite rhombs

2117 - 2125 Dolomite as above, fracture filled with sparry dolomite

2125 - 2130 Dolomite, light-brown, very finely and finely crystalline; poor pinpoint porosity

2130 - 2135 Dolomite, medium-brown, microcrystalline (dolosiltite); good vuggy porosity; vugs filled in part with secondary dolomite

2135 - 2142 Siltstone, very dark-brown, very dolomitic

2142 - 2144 Dolomite, medium-brown, microcrystalline (dolosiltite); partings of dark-gray silty shale

2144 - 2146 Dolomite as above, poor vuggy porosity; vugs partly filled with secondary dolomite

2146 - 2150 Dolomite as above, nonvuggy, silty

2150 - 2153 Dolomite, medium-brown, light-gray-mottled, microcrystalline, slightly glauconitic; very poor vuggy porosity

2153 - 2157 Dolomite, medium-brown, microcrystalline, slightly glauconitic, pyritic, very silty; interbedded with light-gray siltstone

2157 - 2162 Dolomite, light- and medium-brown, medium-crystalline; good vuggy porosity; pod of brown siltstone

2162 - 2167 Dolomite, medium-brown, microcrystalline; poor to fair vuggy porosity; some vugs with coarse dolomite rhombs. Chert, white, nodular, friable. Shale, dark-gray, silty; as partings

2167 - 2169 Dolomite, medium-brown, microcrystalline and very finely crystalline

2169 - 2171 Siltstone, light-gray, very slightly glauconitic, very slightly dolomitic

2171 - 2173 Dolomite, medium-brown, very finely crystalline, fair vuggy porosity; several pieces of dolomite 2.5 cm long and .2 cm wide, curved in part. Shale, dark-brown, silty; as partings

2173 - 2177 Dolomite, medium-brown, microcrystalline (dolosiltite), slightly pyritic, silty to very silty; poor vuggy porosity

2177 - 2184 Dolomite as above, silty. Shale as above

2184 - 2188 Siltstone, light-gray to brownish-gray, slightly glauconitic; interbedded with argillaceous dark-brown siltstone

2188 - 2190.5 Siltstone, light gray as above, interbedded with silty dark-brown shale

2190.5 - 2191 Sandstone, light-gray, very fine-grained, silty, glauconitic, pyritic, micaceous

2191 - 2195 Siltstone, light- and medium-brownish-gray, argillaceous; interbedded with silty dark-brown shale

2195 - 2200 Siltstone, light-gray, glauconitic

2200 - 2203 Siltstone, light-brown to grayish-brown, slightly glauconitic; partings of silty dark-brown shale

2203 - 2207.5 Siltstone as above, light gray in part. Shale as above

2207.5 - 2211 Siltstone, light-grayish-brown, partings as above

2211 - 2215 Siltstone as above, glauconitic, containing coarse blebs of light-brown dolomite

2215 - 2217 Siltstone as in sample from 2207.5 to 2211 feet

2217 - 2221 Siltstone as above, probably fossiliferous

2221 - 2227 Siltstone as above, nonfossiliferous; shale partings

2227 - 2229 Dolomite, light-brown, microcrystalline (dolosiltite), very silty

2229 - 2230 Dolomite as above

2230 - 2255 Dolomite, medium-brown, microcrystalline (dolosiltite), slightly glauconitic, silty, slightly sandy (very fine-grained sand), probably fossiliferous. Shale, dark-brown, silty; as partings

2255 - 2300 Dolomite, light- and medium-brown, microcrystalline (dolosiltite), silty, slightly sandy (very fine-grained sand); poor pinpoint porosity

2300 - 2320 Dolomite, light- and medium-brown, microcrystalline and very finely crystalline, silty; grayish in part; sandy in part (very fine-grained sand); poor pinpoint porosity

2320 - 2330 Dolomite as above, sandy as above. Sandstone, very light-brownish-gray, very fine- and fine-grained, slightly glauconitic; heavy trace

2330 - 2340 Dolomite as above, very slightly glauconitic, very silty. Sandstone as above, heavy trace

2340 - 2350 Siltstone, light- and medium-brown to grayish-brown, slightly glauconitic and micaceous; very dolomitic in part. EAU CLAIRE FORMATION at 2340 feet

2350 - 2360 Siltstone as above. Dolomite, light-brown, medium- and coarsely crystalline (bioclastic?), glauconitic. Shale, dark-gray; as partings

2360 - 2370 Siltstone as above. Shale as above. Dolomite as above, trace

2370 - 2380 Shale, medium- and dark-greenish-gray and brown, silty; in part grading into siltstone. Dolomite as above. Siltstone as above

2380 - 2420 As above. Limestone, very light-gray, light- and medium-brown, lithographic to very fine-grained, fossiliferous

2420 - 2430 Siltstone, light-greenish-gray, light- and medium-brown; dolomitic in part; 70%. Shale, dark-greenish-gray, slightly micaceous; 30%. Dolomite as above, trace

2430 - 2450 Siltstone, light-brown, slightly pinkish, glauconitic, slightly micaceous; hematitic in part; 90%. Shale as above, 10%. Shale, red, silty; trace from 2440 to 2450 feet

2450 - 2470 Siltstone as above, 80%. Shale, dark-greenish-gray, dark-red, silty; 20%. Chert, light-brown; trace

2470 - 2500 Siltstone, light-brown to very light-brownish-gray, light-pinkish-gray, greenish-gray, very slightly glauconitic, micaceous; 95%. Shale, dark-brownish-red; 5%. Limestone, light-gray, lithographic; recrystallized in part; trace

2500 - 2510 Siltstone as above, medium brown to grayish brown, 65%. Shale, dark-greenish-gray, brownish-red, silty, micaceous; 30%. Limestone, very light-gray, light-brown, lithographic, silty; 5%

2510 - 2560 As above. Dolomite, medium-brown, medium- and coarsely crystalline, silty, glauconitic (probably bioclastic)

2560 - 2610 Sandstone, light-pinkish-brown, greenish-gray, very fine-grained, glauconitic, silty, micaceous. Dolomite, light-gray, medium- and coarsely crystalline, glauconitic, silty; hematitic in part; heavy trace. Shale, dark-greenish-gray, dark-reddish-brown, micaceous; trace

2610 - 2620 Sandstone as above, glauconitic to very glauconitic. Dolomite as above, trace. Shale as above, trace

2620 - 2680 Sandstone, light-gray, light-pinkish-yellow, very fine-grained, very glauconitic; silty in part. Shale as above, heavy trace to trace

Core chips from 2680 to 2921 feet

2680 - 2681 Sandstone, light-brown, very fine-grained, silty, glauconitic. Shale, dark-gray to green-

ish-gray; as partings
2681 - 2682 Siltstone, medium-grayish-green, argillaceous, micaceous. Shale, red; as partings
2682 - 2683 Sandstone, light-pinkish-brown, very fine-grained, silty, glauconitic. Shale, red; as partings
2683 - 2684 Shale as above, interbedded with argillaceous glauconitic medium-greenish-gray siltstone
2684 - 2685 Siltstone and very fine-grained sandstone, light-pinkish-yellow, light-greenish-gray, glauconitic, micaceous
2685 - 2686 Siltstone, medium-greenish-gray, argillaceous, sandy, dolomitic; interbedded brownish-red shale
2686 - 2687 Siltstone, light-brown and light-greenish-gray, sandy (very fine and fine-grained sand), glauconitic, dolomitic. Shale, dark-gray; as partings
2687 - 2688 As above
2689 - 2690 Sandstone, light-pinkish-brown, glauconitic. Shale, red; as partings
2690 - 2691 Siltstone, medium-greenish-gray, glauconitic, sandy; interbedded micaceous dark-brown and brownish-red shale
2691 - 2692 Siltstone, light-brown, micaceous, slightly glauconitic. Shale as above
2692 - 2693 As above, siltstone burrowed and containing bleb of glauconitic dolomite
2693 - 2694 Siltstone, medium-greenish-gray, argillaceous, micaceous. Shale, dark-gray, red; as partings
2694 - 2695 Siltstone, light-brown, glauconitic. Shale, red; as partings; glauconite marking bedding planes
2695 - 2696 Siltstone, light-brown; laminated with very slightly glauconitic micaceous light-pinkish-brown shale. Shale as above
2696 - 2697 Siltstone as above. Shale as above
2697 - 2698 Siltstone as above, slightly glauconitic, with blebs of coarsely crystalline dolomite (fossils?). Shale, red; as partings
2698 - 2700 Siltstone as above, glauconite marking bedding planes. Shale, dark-brownish-red, dark-gray; as partings
2700 - 2702 Brachiopod fossil hash, glauconitic, sandy (very fine- to coarse-grained sand), hematitic; *Lingula* valves
2702 - 2704 Siltstone, light-brown, greenish-gray, glauconitic, sandy, micaceous; blebs of dolomitized fossil fragments. Shale, red, micaceous; as partings
2704 - 2706 Dolomite, light-brown, coarsely crystalline, sandy, glauconitic; fossil hash. Shale, dark-gray; as partings
2706 - 2708 Siltstone, light-brownish-gray, sandy, glauconitic, fossiliferous (brachiopods). Shale, dark-brownish-red; as partings
2708 - 2709 Siltstone as above, very glauconitic, micaceous
2709 - 2710 Sandstone, light-gray, very fine-grained, very glauconitic, fossiliferous. Shale as above
2710 - 2711 Siltstone, light-brown, laminated with slightly glauconitic light-brownish-gray shale. Shale, medium-brownish-gray; as partings
2711 - 2713 Siltstone, light-pinkish-brown, light-greenish-gray, glauconitic; argillaceous in part. Shale, red; as partings
2713 - 2715 Sandstone, light-pinkish-brown, very fine-grained, very glauconitic, fossiliferous (brachiopods). Shale, red; as partings
2715 - 2717 Sandstone as above, nonfossiliferous. Shale, red; as partings
2717 - 2718 As above
2718 - 2719 As above. Sandstone, very fine- and fine-grained, fossiliferous
2719 - 2722 Siltstone, light-pinkish-brown, sandy, glauconitic. Shale, dark-gray; as partings
2722 - 2725 Sandstone, pink, very fine-grained, silty, very slightly glauconitic
2725 - 2727 Sandstone as above. Shale, dark-brown; as partings
2727 - 2729 Sandstone, light-gray, very fine- to medium-grained, very glauconitic, pyritic, silty, dolomitic (blebs of fossil remains). Shale, red; as partings
2729 - 2730 Sandstone as above, slightly glauconitic
2730 - 2731 Shale, dark-greenish-gray
2731 - 2732 Sandstone, light-pinkish-brown, very fine-grained, very glauconitic
2732 - 2734 Sandstone as above. Shale, red; as partings
2734 - 2735 Sandstone as above, with blebs of dolomite fossil remains. Shale, red; as partings
2735 - 2739 As above
2739 - 2740 As above, sandstone very fine- to medium-grained, containing brachiopod valves
2740 - 2742 Sandstone as above, very fine- and fine-grained. Shale, red; as partings
2742 - 2743 Sandstone, light-pinkish-brown, very fine-grained, glauconitic. Shale, dark-gray; as partings
2743 - 2745 Sandstone, light-gray to pinkish-brown, very fine- and fine-grained, very glauconitic; brachiopod valves. Shale, red; as partings
2745 - 2746 As above, sandstone nonfossiliferous
2746 - 2752 Sandstone as above, fossiliferous in part. Shale, red and greenish-gray; as partings
2752 - 2755 Sandstone as above, very fine to medium grained, very fossiliferous
2755 - 2761 Sandstone, light-brown to pinkish-brown, very fine-grained, very glauconitic, fossiliferous. Shale, as partings
2761 - 2768 Sandstone as above, medium grained
2768 - 2769 Sandstone, colorless, coarse-grained, glauconitic, fossiliferous
2769 - 2771 Sandstone as above, very fine to coarse grained
2771 - 2772 Sandstone, pink, very fine- to medium-grained (predominantly fine), slightly glauconitic, fossiliferous
2772 - 2773 Sandstone, pink and colorless, fine- and medium-grained, slightly fossiliferous (brachiopod valve fragments); patch of dolomitic dark-brown sandstone
2773 - 2774 Sandstone, colorless, very fine- to coarse-grained (predominantly medium); fossiliferous as above
2774 - 2783 Sandstone, pink, very fine- to medium-grained (predominantly fine); argillaceous partings; slightly fossiliferous as above
2783 - 2787 Sandstone, dark-pink, predominantly coarse-grained, very glauconitic
2787 - 2790 Sandstone, pink and colorless, very fine- and fine-grained, very glauconitic, slightly fossiliferous
2790 - 2794 Sandstone, light-pinkish-gray, fine-grained, clayey. Shale, red; as partings
2794 - 2799 Shale, dark-gray, slightly glauconitic, micaceous, slightly pyritic; pods of fine-grained sandstone
2800 - 2802 Sandstone, light-pinkish-gray, very fine- and fine-grained, glauconitic, slightly fossiliferous
2802 - 2805 Sandstone as above, very glauconitic. Shale, red; as partings
2805 - 2813 As above, sandstone glauconitic to very glauconitic, fossiliferous in part (brachiopods)
2813 - 2823 Sandstone, pink, fine-grained, very slightly glauconitic, slightly fossiliferous. Shale, dark-gray; as partings
2823 - 2826 Sandstone as above, very slightly to slightly glauconitic
2826 - 2830 Sandstone, light-pinkish-gray, fine-grained,

very glauconitic along bedding planes. Shale, brownish-red; as partings

2830 - 2833 Sandstone as above, slightly glauconitic, fossiliferous

2833 - 2835 Sandstone, very light-gray, very fine- to coarse-grained, glauconitic, slightly fossiliferous. Shale, dark-gray; as partings

2835 - 2837 Sandstone, pink, fine-grained, fossiliferous; few blebs of clayey light-gray sandstone. MT. SIMON SANDSTONE at 2835 feet

2837 - 2838 Sandstone, colorless, predominantly medium-grained, slightly fossiliferous

2838 - 2840 Sandstone, pink and colorless, fine- to coarse-grained, predominantly fine-grained, slightly fossiliferous

2840 - 2841.5 Sandstone, colorless, medium-grained, slightly fossiliferous

2841.5 - 2842 Sandstone, pink and colorless, fine-grained

2842 - 2844 Sandstone, colorless, fine- and medium-grained

2844 - 2861 Sandstone, pink, very fine- and fine-grained, slightly fossiliferous; few partings of gray shale

2861 - 2866 Sandstone, light-pinkish-gray, very fine- and fine-grained, slightly glauconitic. Shale, dark-gray; as partings

2866 - 2868 Sandstone as above, nonglauconitic

2868 - 2881 Sandstone, light-pinkish-gray to pink, fine-grained; some medium-grained sand; micaceous in part. Shale partings as above

2881 - 2883 Sandstone, white, medium- and coarse-grained

2883 - 2885 Sandstone, pink, very fine- and fine-grained; light-green clay in lenses

2885 - 2886 Sandstone, white, medium- and coarse-grained

2886 - 2887 Sandstone as above, medium grained

2887 - 2888 Sandstone, pink to colorless, fine- and medium-grained (predominantly fine)

2888 - 2895 Sandstone, light-gray, medium-grained

2895 - 2896 Sandstone, pink, fine- to coarse-grained (predominantly medium); partings of green clay

2896 - 2897 Sandstone, pink and white, fine- to coarse-grained; green clay as blebs

2899 - 2900 Sandstone, red, medium- and coarse-grained, hematitic

2900 - 2906 Sandstone, red, light-gray, fine- and medium-grained (predominantly fine); clayey matrix

2906 - 2912 Sandstone, white, fine- to coarse-grained; clayey in part

2912 - 2916 Sandstone, white, fine- and medium-grained

2916 - 2919 Sandstone, light-gray, fine- to coarse-grained

2919 - 2921 Sandstone, very light-pinkish-gray, fine- and medium-grained

2921 - 2950 Sandstone, red, fine- to coarse-grained, friable

2950 - 3040 Sandstone, red, very fine- to very coarse-grained, arkosic

3040 - 3067 Granite or granite gneiss. PRECAMBRIAN at 3040 feet

TD samples 3067 feet

Coshocton County
Jefferson Township
Lot 1, 4th Qtr.

Tatum #1 Lee
Permit No. 2053
Sample No. 2519
Elevation (KB) 1040 feet

Depth (ft)

Samples above 5700 feet not examined; samples poor because of shale cavings; very fine samples

5700 - 5730 Limestone, very light-brown and medium-brown, lithographic; fossiliferous (ostracods, brachiopods); dolomitized in part; patches of sparry calcite and dolomite

5730 - 5780 Limestone as above. Shale, medium- and dark-green, dolomitic; trace. Dolomite, very light-greenish-gray, microcrystalline; slightly argillaceous in part; sandy in part (fine- to coarse-grained sand); trace. Sparry dolomite, trace

5780 - 5790 Dolomite, very light- and light-brown, microcrystalline, silty, sandy (very fine- to coarse-grained sand). Limestone as above, heavy trace. Shale as above, trace

5790 - 5800 Sandstone, very light-brownish-gray, fine- to coarse-grained, dolomitic, friable; predominantly rounded and frosted grains. Dolomite as above, trace. Glauconite pellets, trace

5800 - 5840 Dolomite, light-brown, microcrystalline and very finely crystalline, slightly sandy (very fine- and fine-grained sand); poor vuggy porosity. Sand, fine- and medium-grained; trace. KNOX DOLOMITE at 5798 feet (GRN)

5840 - 5860 Dolomite, very light-brownish-gray, microcrystalline, sandy (fine- and medium-grained sand), very slightly glauconitic. Sparry dolomite, trace

5860 - 5880 Dolomite, very light- and light-brown, microcrystalline. Chert, white; trace to 5870 feet

5880 - 5960 Dolomite as above, very poor pinpoint porosity. Sparry dolomite, trace

5960 - 5990 Dolomite as above, very slightly glauconitic (silt-sized glauconite specks). Sparry dolomite, trace

5990 - 6010 Dolomite as above, nonglauconitic

6010 - 6020 Dolomite, very light- and light-brown, microcrystalline, very slightly glauconitic (silt-sized glauconite specks). Siltstone, very light-gray; slightly glauconitic as dolomite; trace

6020 - 6190 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline; sucrosic in part. Sparry dolomite, trace

6190 - 6200 Dolomite, very light-gray, very light- and light-brown, microcrystalline and very finely crystalline

6200 - 6210 Dolomite as above, light and medium brown

6210 - 6260 Dolomite, very light-gray, very light- to medium-brown, microcrystalline to finely crystalline; very slightly sandy to 6230 feet (fine- and medium-grained sand). Pyrite, trace to 6250 feet

6260 - 6270 Dolomite, very light-brownish-yellow to light-brown, microcrystalline, slightly sandy (very fine- to medium-grained sand, becoming predominantly fine below 6270 feet). CONASAUGA FORMATION at 6260 feet

6270 - 6290 Dolomite as above, very slightly sandy as above

6290 - 6310 Dolomite, very light-brown and gray, microcrystalline, slightly pelletal or oolitic, slightly sandy (very fine- to medium-grained sand)

6310 - 6330 Dolomite, very light-brown and gray, microcrystalline, slightly pelletal or oolitic, sandy (fine- to coarse-grained sand)

6330 - 6360 Dolomite as above, grading into very friable predominantly medium-grained sandstone

6360 - 6380 Dolomite, very light-gray and brown, microcrystalline to finely crystalline, very slightly to very sandy (fine- to coarse-grained sand, predominantly coarse) ROME FORMATION at 6349 feet (GRN)

6380 - 6400 Dolomite, very light-brown, microcrystalline to finely crystalline, slightly sandy to sandy (fine- and medium-grained sand); poor intercrystalline porosity

6400 - 6420 Dolomite, very light-gray, very light- and light-brown, microcrystalline to medium-crystalline, slightly sandy to sandy

6420 - 6440 Dolomite, very light-gray to brownish-gray and brown, predominantly microcrystalline, sandy (fine- and medium-grained sand)
6440 - 6460 Dolomite as above, very slightly sandy
6460 - 6470 Dolomite as above, sucrosic in part
6470 - 6520 Dolomite, very light-brown, microcrystalline and very finely crystalline, very slightly sandy (fine- and medium-grained sand); pelletal in part. Sparry dolomite, trace
6520 - 6540 Dolomite, very light-gray and brown, microcrystalline and very finely crystalline, slightly sandy to sandy (fine- and medium-grained sand). Sparry dolomite, trace
6540 - 6570 Dolomite as above, medium brown in part, very slightly sandy
6570 - 6670 Dolomite as above, pelletal and granular in part (fine- to coarse-grained, mud- and grain-supported); bird's-eye structures
6670 - 6740 Dolomite as above, sandy (fine- to coarse-grained sand)
6740 - 6750 Dolomite, light- to dark-brown, microcrystalline and very finely crystalline, sandy (fine- and medium-grained sand); pelletal in large part
6750 - 6760 Dolomite as above, very sandy (fine- to coarse-grained sand)
6760 - 6810 Dolomite as above, dark-brown to black pellets and oolites (fine- to very coarse-grained). Sandstone, white, very fine- to coarse-grained, poorly sorted, siliceous; heavy trace to trace
6810 - 6820 No samples, all cavings
6820 - 6840 Dolomite as in sample from 6760 feet to 6810 feet
6840 - 6850 Sandstone, white and very light- to medium-brown, very fine- to coarse-grained, poorly sorted; 70%. Dolomite as above, 30%
6850 - 6860 Dolomite as above, 80%. Sandstone as above, 20%
6860 - 6870 Sandstone, very fine- to coarse-grained (predominantly medium and coarse), very friable; 60%. Dolomite as above, grading into sandstone, 40%. MT. SIMON SANDSTONE at 6860 feet
6870 - 6900 Sandstone as above, 70%. Dolomite as above, 30%
6900 - 6910 Sandstone, light-brownish-gray, white, predominantly very fine-grained (in part fine to coarse). slightly dolomitic
6910 - 6930 Sandstone, light-brown and light-brownish-gray, colorless, very fine- to very coarse-grained; dolomitic in part; very friable in part
6930 - 6961 Sandstone as above, siliceous in part
6961 - 6963 Sandstone as above. Feldspar, red; trace
6963 - 6970 Sandstone as above, 50%. Granite or granite gneiss, 50%. PRECAMBRIAN at 6964 feet
TD samples 6970 feet

Lake County
Perry Township
Lot 47 (9300' WL & 9200' SL of Twp.)

Calhio #1 Calhio
Permit No. 142
Sample No. 2509
Elevation (KB) 701 feet

Depth

Core starts in Wells Creek Formation
Core chips from 5357 feet to 5374 feet

5357' 0" Shale, medium-greenish-gray, dolomitic, burrowed; silty in part
5357' 4" Shale, medium-green, pyritic
5359' 0" Siltstone, light- and medium-grayish-brown, dolomitic, sandy (rounded very fine- to medium-grained sand)
5360' 8" Shale, light-gray to greenish-gray, silty, very slightly sandy (rounded very fine- to medium-grained sand)
5362' 3" Shale, dark-brown; slightly sandy as above
5362' 11" Shale, dark-brown, silty
5363' 8" Shale, dark-brown, silty, slightly dolomitic
5364' 6" Siltstone as in sample at 5359' 0"
5366' 0" Siltstone as above
5367' 0" Sandstone, light-brownish-gray, very fine-grained, dolomitic; some fine- and medium-grained sand; blebs of green shale
5368' 0" Siltstone as in sample at 5366' 0"
5370' 0" Siltstone as above
5371' 0" Shale, dark-brown, as in sample at 5363' 8"
5372' 0" Shale, medium-greenish-gray, silty
5372' 8" Shale as above, very sandy (very fine- to coarse-grained sand)
5373' 11" Shale, dark-brown, medium-greenish-gray, very sandy as above in part

Core slabs from 5374 feet to 5416 feet

5374 Sandstone, banded colorless, light-brown, and light-gray, very fine- to very coarse-grained, poorly sorted; very silty in part; dark-brown shaly laminations; angular clast of dark-brown shale
5375' - 5379' 6" Sandstone, very light-gray, very fine- to very coarse-grained, poorly sorted, slightly pyritic; thin inclined irregular patches of dark-brown shale in upper foot, probably burrowed
5379' 6" Dolomite, light- to medium-brownish-gray, mottled light-brown, microcrystalline (dolosiltite), fractured; fractures filled with pyrite and sandstone; sharp contact with sandstone above. KNOX DOLOMITE at 5379' 6"
5379' 6" - 5382' 6" Dolomite, light- to medium-gray, light- and medium-brown, mottled, microcrystalline and very finely crystalline; poor vuggy porosity; numerous patches of sparry dolomite (filling vugs); few medium and coarse grains of sand
5382' 6" - 5383' 3" Dolomite, light-brown, microcrystalline, sandy to very sandy (fine- to coarse-grained sand); poor vuggy porosity; patches of sparry dolomite; at the base a rounded and elongate pebble (15 mm long diameter) of laminated microcrystalline light-gray dolomite, sandy at the base; underlying sand grains jutting into the pebble: at 5383' 8" this dolomite in sharp contact with a conglomeratic sandstone with medium-brown matrix color and containing very fine- to very coarse-grained sand (predominantly coarse) and numerous pebbles of sandy light-gray dolomite and very fine-grained dolomitic sandstone; sharp contact at 5383 feet of conglomeratic sandstone over slightly sandy (medium- to very coarse-grained sand) microcrystalline mottled very light- and medium-brown dolomite; patches of sparry dolomite
5383' 3" - 5383' 6" Sandstone, medium-brown, fine- and medium-grained; few coarse grains; rounded dolomite pebble (6 mm long

diameter) near top; sharp contact with dolomite above

5383' 6" - 5384' 3" Sandstone as above, becoming light brown toward base, white in basal 3 mm; disconformable contact with section below; contact sharp, irregular, and marked by .1 mm layer of pyrite; section below the contact slightly sandy to very sandy microcrystalline light-brown dolomite interbedded with nonsandy light-gray dolomite; fine- to coarse-grained sandstone throughout, enclosing blebs of silicified white oolites near the base

5384' 3" - 5386' 1" Sandstone, white and very light-brown, fine- to coarse-grained, poorly sorted, very slightly glauconitic, dolomitic; apparently interbedded with and containing rounded elongate clasts of faintly laminated light-gray and light-brown dolomicrite (long diameter of clasts up to 7 cm and more)

5386' 1" - 5386' 2" Shale, medium-brownish-gray, dolomitic

5386' 2" - 5386' 8" Dolomite, light-brown, microcrystalline, fine-grained; some shaly partings

5386' 8" - 5387' 9" Dolomite, faintly mottled light-yellowish-brown, light- and medium-brown, very finely crystalline, very slightly sandy (fine- and medium-grained sand); patches of sparry dolomite

5387' 9" - 5389' 1" Sandstone, light-greenish-gray, very fine- and fine-grained, 2 mm thick; underlain with sharp contact by sandy to very sandy (very fine- to medium-grained sand) light-brown dolomicrite; pebble (6 mm long diameter) of nonsandy light-gray to brown dolomicrite at base; contact with underlying section inclined about 30°; immediately underlying contact 5 to 6 mm of poorly sorted very fine- to coarse-grained white and light-gray sandstone that grades into poorly sorted very fine- to coarse-grained dolomitic light-brown sandstone and slightly sandy to very sandy dolomite; patches of sparry dolomite at 5388' 2" in dolomite; a fracture, inclined about 60°, cutting through sand grains

5389' 1" - 5389' 3" Sandstone, light-gray, very fine-grained, thinly interbedded with light-brown dolosiltite, separated by medium-brown siltstone(?) films, pyrite films, and shale films; sharp contact with slightly sandy brown dolomite above

5389' 3" - 5389' 10" Dolomite, light-brown, mottled light-gray, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand), pyritic, burrowed; irregular patches of very fine- and fine-grained light-gray sandstone with some clay in matrix

5389' 10" - 5390' 7" Dolomite, light-brown, microcrystalline (dolosiltite), slightly sandy, stylolitic, slightly pyritic (along stylolites), burrowed; very fine-grained light-gray sandstone filling burrowed spots; several patches of sparry dolomite

5390' 7" - 5391' 4" Dolomite as above, mottled very light yellowish brown and light gray, sandy to very sandy (very fine- to coarse-grained sand); in places grading into sandstone; several fractures (up to .3 mm wide) partly filled with sparry dolomite; at 5391' 0", sharp contact with very fine- to medium-grained white sandstone; discontinuous laminations of glauconite

5391' 4" - 5392' 1" Sandstone, medium-brown, medium- and coarse-grained, very dolomitic; few angular to rounded dolomite pebbles (up to 1 cm in long diameter); pyrite film at sharp but irregular contact with sandstone above

5392' 1" - 5392' 8" Dolomite, light- and medium-brown, mottled light-gray, microcrystalline to very finely crystalline, sandy to very sandy (very fine- and fine-grained sand); poor vuggy porosity; vugs in part filled with sparry dolomite; at 5393' 3" an irregular layer, 2 inches thick, of swirls of very fine-grained white sandstone with black clay partings; sharp contact with sandstone above

5392' 8" - 5393' 0" Sandstone, medium-brown, very fine- to coarse-grained, very dolomitic; laterally grading irregularly into very sandy dolomite containing large patches of sparry dolomite; several fractures, as much as 4 cm long, filled with sparry dolomite

5393' 0" - 5393' 7" Sandstone, white, very fine- and fine-grained; 2 cm thick; underlain by conglomeratic light-brown sandstone, pebbles of light-gray dolomite; sharp contact with sandy (very fine- to medium-grained sand) microcrystalline (dolosiltite) medium-brown dolomite at 1.5 inches below top of white sandstone; gradational contact with dolomite above

5393' 7" - 5394' 0" Dolomite, medium-brown, microcrystalline, sandy to very sandy (very fine- to medium-grained sand); in part fine- to coarse-grained; interbedded with dolomitic fine- and medium-grained medium-brown sandstone

5394' 0" - 5394' 1" Sandstone, light-brown, fine- and medium-grained; overlying 2 inches glauconitic (in layers) very fine- to medium-grained white sandstone; at 5394' 3" white sandstone overlying with sharp contact thinly interbedded white and light-gray sandstone and sandy dolomite, separated by clayey and pyritic films

5394' 1" - 5393'. 2" Dolomite, light-brownish-gray, microcrystalline (dolomicrite); a few laminations of slightly sandy light-brown clay; at 5394' 11" one set of these laminations forming the contact with burrowed sandy to very sandy (very fine- and fine-grained sand) very finely crystalline medium-brown dolomite; burrowed spaces occupied by slightly glauconitic very fine- and fine-grained white and very light-brown sandstone

5395' 2" - 5396' 7" Dolomite, medium-brown, very finely

crystalline; sandy to very sandy in part (very fine- and fine-grained sand); large patches of sparry dolomite; grading at 5395' 9" into very sandy dolomite (very fine- to coarse-grained sand) with fair vuggy porosity

5396' 7" - 5397' 10" Dolomite, very sandy as above, containing light-gray dolomite pebbles up to 3 cm in long diameter, grading into and interbedded with fine- to coarse-grained sandstone, slightly glauconitic in part; several sharp contacts between dolomite and sandstone

5397' 10" - 5399' 6" Dolomite, light-brown, light-grayish-brown, microcrystalline (dolosiltite), sandy (very fine- to medium-grained sand); thin and irregular beds of very fine- to medium-grained white sandstone; dolomite burrowed and showing fractures and patches filled with sparry dolomite

5399' 6" - 5399' 11" Sandstone, colorless, medium-grained; numerous angular to subrounded elongate clasts of brown dolomicrite

5399' 11" - 5402' 5" Dolomite, light-brown, microcrystalline (dolosiltite); a few thin (.5) beds of very fine-grained white and light-gray sandstone; dolomite becomes sandy (very fine- to medium-grained sand) at 5400' 6"

5402' 5" - 5402' 6" Sandstone, white, fine- to coarse-grained, fairly well sorted

5402' 6" - 5402' 7" Dolomite, light- and medium-brown, microcrystalline, stylolitic; few patches of sparry dolomite; sandy in uppermost part; contact with overlying sandstone sharp to gradational

5402' 7" - 5403' 7" Dolomite, light-yellowish-brown, microcrystalline, sandy (fine- to coarse-grained sand); becoming medium brown; pelletal (fine- and medium-grained, grain-supported) in large part; few patches of sparry dolomite; some pinpoint to vuggy porosity; dolomite becoming oolitic at 5403' 2"; sharp contact with overlying dolomite

5403' 7" - 5403' 8" Sandstone, white, very fine- and fine-grained, slightly glauconitic; a few medium-sized grains; contact with overlying dolomite not available; contact with underlying dolomite gradational but irregular

5403' 8" - 5404' 10" Dolomite, medium-brown, microcrystalline, sandy (very fine- to medium-grained sand); poor pinpoint porosity; discontinuous vertical fracture (4 inches long) partly filled with sparry dolomite

5404' 10" - 5408' 2" Dolomite, light- and medium-brown, microcrystalline and very finely crystalline, very sandy (very fine- to coarse-grained sand); few blebs of light-yellowish-gray dolomite; few patches of sparry dolomite; few laminations of fine-grained sandstone with black shaly films

5408' 2" - 5409' 9" Dolomite, light-brown, microcrystalline (dolosiltite), slightly sandy to sandy (very fine- and fine-grained sand); few patches of sparry dolomite; becoming very sandy (very fine- to medium-grained sand) at 5408' 6"; two irregular beds of very fine-grained white sandstone between 5408' 6" and 5409' 9"

5409' 9" - 5413' 10" Dolomite, medium-brown, microcrystalline, pelletal and oolitic, sandy (very fine- to medium-grained sand); numerous patches of sparry dolomite; becoming fine- to coarse-grained at 5410' 7"; fair pinpoint to vuggy porosity; very fine-grained white sandstone from 5411' 8" to 5411' 9"; dolomite below sandstone medium brown, very finely and finely crystalline, slightly sandy; excellent pinpoint to vuggy porosity; irregular inclined 1-cm beds of very fine-grained white sandstone at 5412' 5" and 5413' 0"

5413' 10" - 5414' 2" Dolomite, medium-brown, very finely crystalline, sandy (fine- to coarse-grained sand); sparry dolomite partly filling large (up to 4 cm across) vugs; stylolitic upper contact

5414' 2" - 5414' 4" Dolomite, light- and medium-brown, very finely and finely crystalline, sandy (very fine- and fine-grained sand); pelletal and oolitic in part; fair vuggy porosity

5414' 4" - 5416' 6" Dolomite, mottled light- and medium-brown, white, very finely crystalline; sucrosic in part; numerous vugs, most partly or completely filled with sparry dolomite

Depth (ft)	
5420 - 5430	Dolomite, light- and medium-brown, microcrystalline and very finely crystalline, sandy (very fine- to coarse-grained sand); much sparry dolomite; 95%. Sandstone, white, light-green, fine- to coarse-grained; 5%
5430 - 5500	Dolomite as above, sucrosic in part, fair vuggy porosity. Sandstone as above, 5% to trace
5500 - 5520	Dolomite as above, a few medium- and coarse-sized sand grains, 70%. Sandstone, white, fine-grained; 30%
5520 - 5540	Dolomite as above, 60%. Sandstone as above, 40%
5540 - 5550	Sandstone, white, fine- to very coarse-grained; fairly well sorted, 60%. Dolomite as above, 40%. KERBEL FORMATION at 5540 feet
5550 - 5560	Sandstone as above, 80%. Dolomite as above, 20%
5560 - 5570	Sandstone, white, light-gray, very fine- to very coarse-grained; very slightly glauconitic in small part; 70%. Dolomite, light- and medium-brown, microcrystalline to finely crystalline, sandy to very sandy (very fine- to very coarse-grained sand); 30%
5570 - 5600	Sandstone, white, light-gray, light-brownish-gray, very fine- and fine-grained; some medium- and coarse-grained sand; silty in part; very slightly glauconitic in small part. Dolomite as above, light gray and oolitic in part, heavy trace to trace
5600 - 5640	Sandstone as above, 80-90%. Dolomite as above, 10-20%. CONASAUGA FORMATION at 5640 feet
5640 - 5660	Sandstone, white, light-gray and brown, medium-grayish-brown, very fine- and fine-grained, silty. Siltstone, dark-grayish-brown, sandy (very fine-grained sand). Dolomite, light-brown, microcrystalline and very finely crystalline, sandy; trace. Shale, dark-brown, silty; trace

5660 - 5680 Siltstone, dark-grayish-brown, argillaceous. Sandstone as above, trace. Shale as above, trace
5680 - 5690 Siltstone as above, glauconitic in small part. Sandstone as above, trace
5690 - 5700 As above, siltstone generally glauconitic
5700 - 5730 Siltstone, medium-brown and dark-grayish-brown; glauconitic in part. Dolomite, light- and medium-brown, microcrystalline, fine- and medium-grained, sandy (fine- to coarse-grained sand); in part glauconitic; heavy trace. Sandstone, white, fine-grained; trace
5730 - 5750 Sandstone, white, very light-brown, fine- to coarse-grained, poorly sorted, very light-brown sandstone grading into dolomite. Siltstone as above, 10%. Dolomite, microcrystalline (dolomicrite), pelletal; heavy trace. Dolomite as above, trace. ROME FORMATION at 5736 feet (GRN)
5750 - 5770 Dolomite, very light-gray, very light- and light-brown, microcrystalline (dolomicrite), sandy; pelletal in part; grading into very fine- to medium-grained sandstone; 70%. Sandstone, white, fine- and medium-grained; 30%. Cavings (Conasauga)
5770 - 5820 Dolomite, very light- to medium-brown, very light-gray, microcrystalline and very finely crystalline; sucrosic in small part; in part sandy to very sandy (fine- to coarse-grained sand); grading into sandstone. Sandstone, heavy trace
5820 - 5860 Dolomite as above, pelletal in part
5860 - 5960 Dolomite, very light- to dark-brown, very light- and light-gray, microcrystalline; pelletal and oolitic in part; sandy in part (fine- and medium-grained sand); grading in small part into sandstone from 5890 to 5960 feet. Contact with Mt. Simon in core. PRECAMBRIAN at 6065 feet (chlorite-biotite schist and diorite)
TD samples 5960 feet
TD 6076 feet

Mercer County
Center Township
Sec. 4

Harner Union Oil #2 Yewey
Permit No. 141
Sample No. 2497
Elevation (DF) 838 feet

Depth (ft)
1590 - 1600 Limestone, very light-grayish-brown and medium-brown, lithographic. Shale, dark-brown, dolomitic; trace
1600 - 1610 Limestone as above, pyritic, slightly fossiliferous (ostracods); recrystallized in part. Shale, light-gray and greenish-gray, dolomitic; grading into dolomite; trace
1610 - 1630 Limestone, white, light-gray, light- and medium-brown, lithographic to very finely crystalline, slightly pyritic; recrystallized in part. Shale as above, trace
1630 - 1644 Limestone, white, very light-brown, predominantly lithographic, partly dolomitized; inclusions of dolomite crystals. Limestone, medium-gray, argillaceous, dolomitic; trace
1644 - 1660 Limestone as above, almost entirely dolomitized
1660 - 1670 Dolomite and limestone as above, light brown in part, 80%. Dolomite, very light-gray, microcrystalline to finely crystalline, sandy; 15%. Shale, light-green, silty, sandy (very fine- and fine-grained sand), dolomitic; 5%. Shale, dark-brown; heavy trace. KNOX DOLOMITE at 1679 feet (GRN)
1670 - 1690 Dolomite, very light-gray, microcrystalline and very finely crystalline, sandy (very fine-grained sand), oolitic (very coarse-grained siliceous oolites)
1690 - 1744 Dolomite, very light-gray, very light-brown, microcrystalline to medium crystalline; sucrosic in part; very slightly glauconitic and pyritic from 1713 to 1724 feet
1744 - 1773 Dolomite, very light- and light-brown and grayish-brown, microcrystalline (recrystallized); pelletal in part (medium-grained, grain-supported); patches of sparry dolomite
1773 - 1785 Dolomite, light- and medium-brown, microcrystalline (recrystallized); granular-looking
1785 - 1791 Dolomite as above. Dolomite rhombs, heavy trace
1791 - 1799 Dolomite, very light- to medium-brown, microcrystalline (dolomicrite)
1799 - 1812 Dolomite as above. Chert, white; heavy trace. Sand, medium- and coarse-grained, rounded; trace
1812 - 1831 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite). Chert as above, trace
1831 - 1838 Dolomite, very light- and light-brown and gray, microcrystalline (dolosiltite), very slightly glauconitic and pyritic. Chert as above, trace
1838 - 1843 Dolomite, very light- and light-brown, microcrystalline (dolomicrite and dolosiltite); siliceous in part; 90%. Chert, white, light-brown, oolitic or pelletal; 10%
1843 - 1850 Dolomite as above. Chert as above, white; heavy trace
1850 - 1870 Dolomite as above, dolomicrite (recrystallized). Chert as above, trace
1870 - 1910 Dolomite, light- and medium-brown, microcrystalline to finely crystalline (recrystallized). Chert, white, recrystallized; trace to 1880 feet. Chert, trace from 1890 to 1910 feet
1910 - 1916 Dolomite, very light- and light-brown, microcrystalline and very finely crystalline. Chert, white; heavy trace
1916 - 1964 Dolomite, very light- to medium-brown, microcrystalline to finely crystalline, granular-looking
1964 - 1986 Dolomite as above(?), very fine sample
1986 - 1995 Dolomite, light- and medium-brown, microcrystalline, rusty
1995 - 2015 Dolomite, very light-gray, light-brown, microcrystalline (dolomicrite and dolosiltite); rusty in part
2015 - 2025 Dolomite, very light-gray, light-brown, microcrystalline to medium-crystalline. Pyrite, heavy trace
2025 - 2035 Dolomite, very light-brownish-gray, microcrystalline (dolosiltite); pelletal in part. Pyrite and dolomite as above, trace
2035 - 2065 Dolomite, very light-gray to light-brown, microcrystalline to finely crystalline; sucrosic in part
2065 - 2085 Dolomite, very light-gray, light-brown, predominantly microcrystalline (dolosiltite)
2085 - 2127 Dolomite, light-brown, microcrystalline to finely crystalline, granular-looking
2127 - 2175 Dolomite as above(?), becoming very light gray and white at 2135 feet; very fine sample
2175 - 2185 Dolomite, very light-brown, microcrystalline (recrystallized)
2185 - 2215 Dolomite, very light- to medium-brown, microcrystalline
2215 - 2245 Dolomite as above, grayish in part
2245 - 2265 Siltstone, light-gray, slightly greenish in part, dolomitic, slightly glauconitic; argillaceous in part. Shale, medium-greenish-gray; trace
2265 - 2275 As above. Dolomite, light-brown, microcrystalline (recrystallized)
2275 - 2285 Dolomite as above
2285 - 2305 Dolomite, light- and medium-brown, microcrys-

talline and very finely crystalline, granular-looking

2305 - 2315 Dolomite, light-brown, microcrystalline

2315 - 2335 Dolomite as in sample from 2285 to 2305 feet; very fine sample

2335 - 2345 Dolomite, light- and medium-brown, light-gray, microcrystalline; very slightly glauconitic in part

2345 - 2365 Dolomite, light- and medium-brown, microcrystalline

2365 - 2385 Dolomite, very light-gray, light-brown, microcrystalline, slightly glauconitic, silty; grading into siltstone. EAU CLAIRE FORMATION at 2365 feet

2385 - 2405 Siltstone, light-brown, glauconitic

2405 - 2425 Siltstone, very light-gray, light-brown, light- and medium-brownish-gray, greenish-gray, glauconitic, dolomitic; in part argillaceous

2425 - 2435 Limestone, very light- and light-gray, light-brown, lithographic, slightly glauconitic; 90%. Shale, medium- and dark-greenish-gray; 10%

2435 - 2455 Siltstone, light-brown, slightly glauconitic. Limestone as above, heavy trace. Shale as above, trace

2455 - 2465 Shale, medium- and dark-grayish-green; 95%. Siltstone, very light- to medium-brown, slightly glauconitic; 5%

2465 - 2475 Siltstone, light-brown, slightly pinkish, very slightly glauconitic. Shale as above, heavy trace

2475 - 2495 Siltstone, very light-brown; 60%. Shale as above, 40%

2495 - 2515 Siltstone, very light-gray and brown, very slightly glauconitic; 60%. Shale, medium- and dark-grayish-green, dark-reddish-brown; 40%

2515 - 2550 Siltstone as above, 90%. Shale as above, 10%

2550 - 2570 Shale as above, 60%. Limestone, very light-gray, lithographic, 30%. Siltstone as above, 10%

2570 - 2610 Siltstone, very light- and light-gray, light- and medium-brown, slightly glauconitic; 90%. Shale as above, 10%. Limestone as above, trace

2610 - 2643 Siltstone, light-pinkish-brown, light-gray, glauconitic, sandy; dolomitic in part. Shale as above, trace

2643 - 2680 Siltstone, light-pinkish-brown, glauconitic, sandy (very fine- and fine-grained sand)

2680 - 2724 Siltstone as above. Shale, dark-grayish-green; heavy trace

2724 - 2750 Siltstone, light-pinkish-brown, medium-greenish-gray, very sandy (very fine- to medium-grained sand), glauconitic, hematitic. Shale, dark-red, medium-greenish-gray, glauconitic; heavy trace

2750 - 2760 As above, siltstone grading into predominantly fine-grained sandstone

2760 - 2785 Sandstone, light-pinkish-brown, predominantly very fine- and fine-grained, glauconitic, hematitic. Shale, medium-grayish-green, dark-red, glauconitic; heavy trace to trace

2785 - 2805 Siltstone and very fine- and fine-grained sandstone (predominantly sandstone), light-pinkish-brown, medium-greenish-gray, glauconitic; 80%. Shale, dark-red, glauconitic; 20%

2805 - 2841 Sandstone, predominantly fine-grained, friable, glauconitic. Shale, dark-red, medium- and dark-grayish-green, heavy trace to trace

2841 - 2853 Sandstone, colorless, light-pinkish-brown, predominantly fine-grained, friable, very slightly glauconitic

2853 - 2874 Sandstone, colorless, light-pinkish-brown, fine- and medium-grained (angular grains), friable. MT. SIMON SANDSTONE at 2853 feet

2874 - 2883 Sandstone as above, fine to coarse grained

2883 - 2889 Sandstone, very fine-grained, very friable

2889 - 2942 Sandstone, light-pinkish-brown, predominantly fine-grained, friable

2942 - 2974 Sandstone, predominantly medium-grained, friable; angular to rounded grains

2974 - 2993 Sandstone, predominantly fine-grained, friable; angular grains

2993 - 3005 Sandstone as above, clayey rust coating

3005 - 3016 Sandstone, fine- and medium-grained, friable; angular grains

3016 - 3033 Sandstone as above, predominantly very fine- and fine-grained

3033 - 3040 Sandstone, very fine- to coarse-grained, predominantly medium-grained, friable; angular grains

3040 - 3048 Sandstone, fine- to very coarse-grained, friable; angular to rounded grains

3048 - 3056 Sandstone, fine- to coarse-grained, friable; predominantly angular grains

3056 - 3068 Sandstone as in sample from 3040 to 3048 feet

3068 - 3097 Sandstone, very fine- to very coarse-grained, very friable; predominantly rounded coarse and very coarse grains; finer grains predominantly angular

3097 - 3105 Sandstone, medium- to very coarse-grained, friable, arkosic

3105 - 3146 Sandstone as above, predominantly fine grained

3146 - 3153 Sandstone as above. Rhyolite. PRECAMBRIAN at 3150 feet

3153 - 3190 Rhyolite, magnetite, in varying amounts

3190 - 3214 Rhyolite

TD samples 3214 feet

APPENDIX B - SUMMARY OF WELL DATA

CM *Cement marker*
D *Driller*
DF *Derrick floor*
E *Electric log*
G *Gamma ray log*
GL *Ground level*
KB *Kelly bushing*
NR *Not reported*
Q *Quarter of township*
RF *Rig floor*
S *Sample*
T *Topographic map*
VMSL *Virginia Military Survey lot*

County	Township	Land subdivision	Permit number	Operator	Well number and lease name	Elevation at well head (ft above sea level)	Depth (ft)								Total depth of samples (ft)
							Top of Knox	Top of Rose Run	Top of Kerbel	Top of Conasauga	Top of Rome	Top of Eau Claire	Top of Mt. Simon	Top of Precambrian	
Adams	Franklin		D-3	Tira Syndicate	1 Tira	900 GL	2135 D								
	Jefferson	VMSL 2662	4	Cabot	1-A Bailey	714 KB	2048 S, G	2145 S		3140 S, G	3423 S, G		3701 S, G	3769 S	3790
	Jefferson	VMSL 4040	5	Commonwealth	1 Covert	624 KB	2098 S, G	2190 S, G		3171 S, G	3440 S, G		3728 S	3772 S	3830
	Monroe	VMSL 1622	6	Benz	1 Hughes	527 KB	1412 S, G	1540 S, G							
Allen	Auglaize	Sec. 29	57	Dever	1 Burden	1037 DF	1958 G								
	Richland	Sec. 25	59	Dever	1 Cribiez	881 DF	1970 G								
	Shawnee	Sec. 2	67	Vistron	1 Sohio	872 KB	1840 S					2420 S	2834 S	NR	3127
	Spencer	Sec. 22	60	H & H	1 Pohlman	807 DF	1808 G								
Ashland	Clear Creek	Sec. 10	2259	Huron	1 Luteman	1050 KB	4293 G								
	Lake	Sec. 2	1762	Stewart	1 Mosher	1190 DF	5264 G								
	Orange	Sec. 35	2574	Sunshine	1 Jones	1154 KB	4726 G								
	Perry	Sec. 11	2387	M & G	4 Cehrs	1000 KB	4921 G								
	Ruggles	Lot 4 (1Q)	246	Ohio Oil	1 Krause	1114 GL	4469 S		4667 S	4740 S	4780 S		5115 S	NR	5251
Ashtabula	Andover	Lot 38	206	McConnell	1 French & Papp	1063 KB	6636 G	6636							
	Ashtabula	Lot 6	16	Pinney	1 Pinney	580 T	5120 S								
	Dorset	Lot 2	53	Devonian	1 Mueller	1053 DF	6330 D								
	Harpersfield	Lot 35	196	Horizon	1 Burkholder	857 KB	5642 S, G	5642 S, G							
	Jefferson	Lot 134	213	Quaker State	1 Kemmer	914 KB	5851 S, G	5851 S, G							
	Lenox	Lot H	15	Benedum-Trees	1 Corlett	1003 DF	5940 S	5940 S							
	Lenox	Lot 44	217	Mansfield	1 Remelius	965 KB	5999 G								
	Monroe	Lot 1	73	McConnell	1 Brydle	860 KB	5662 S, G	5662 S, G							
	Morgan	Lot 19	286	U. S.	1 Roultston	861 KB	5781 G								
	Pierpont	Lot 60	193	East Ohio	1 Brayman	977 KB	6016 S, G	6016 S, G		6328 S, G	6480 S, G		6778 S, G	6892 S, G	6916
	Trumbull	Lot 30	191	Horizon	1 Rhoa	984 KB	5925 S, G			6158 S, G	6334 S, G		6620 S, G	6740 S	6750
Auglaize	Duchouquet	Sec. 4	55	Pyramid	1 Smith	883 GL	1778 D								
	Goshen	VMSL 12,276	41	Pryers	1 Meyers	1030 T	1928 G								
	Goshen	VMSL 12,276	44	Teeters	1 Golliday	1025 DF	1858 G								
	Goshen	Sec. 11	42	Runyon	1 Barnes	1025 T	1910 D								
	Moulton	Sec. 15	54	Stull	1 Doering	863 GL	1777 D								
	St. Marys	Sec. 22	71	West Ohio Gas	1 Hoelscher	896 KB	1650 S, G					2340 S	2835 S	3040 S	3067
Brown	Huntington	VMSL 4099	4	Warner	1 Gardner	895 GL	1335 S								
	Jackson		2	McCullough & Spillman	1 Rockey	1030 T	1271 S								
Butler	Lemon	Sec. 8	4	Armco	1 Armco	667 KB	1173 S, G					2423 S, G	2975 S	3300 est.	3296
	Wayne	Sec. 6	2	Continental	1 Crist	990 KB	1492 S, G								
Carroll	Brown	Sec. 36	286	Stocker & Sitler	1 Clark	1182 KB	8251 S, G	8455 S, G							
Champaign	Concord	Sec. 22	10	Southern Independent	1 Schultz	1133 DF	1943 G								
	Goshen	VMSL 6349	2	Hodges	1 Ropp	1267 KB	2112 S, G								
	Jackson	Sec. 12	17	Teeters	1 Circle	1162 DF	1864 D								

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Champaign (continued)	Johnson	Sec. 9	13	Teeters	1 Vaughn	1126 DF	1900 G								
	Johnson	Sec. 13	15	Teeters	1 Weller	1196 DF	1994 G								
	Salem	Sec. 25N	11	R. I. G.	1 McCandless	1072 DF	1841 S, G								
	Salem	Sec. 25N	12	Southern Independent	1 Detweiler	1069 DF	1890 G								
	Union	VMSL 5596	3	Kelly	1 Yocum	1227 KB	2156 G								
	Union	VMSL 6195	16	Teeters	1 Perry	1239 DF	2154 G								
	Wayne	VMSL 4516	5	Brandeberry	1 Black	1327 RF	2170 G								
	Wayne	VMSL 13,005	8	Wheeler	1 Pooler	1148 KB	2044 D								
Clark	Harmony	Sec. 3	3	Hodges	1 Elcamere Farms	1167 DF	2085 S, G		2720 S			2790 S	3300 S	3550 S	3580
	Madison	VMSL 2066	5-A	Friend	1 Mattison	1087 GL	1950 S						3230 S	3366 S	4647
	Moorefield	Sec. 8	5	Slagle	1 Wimberly	1005 T	1775 D								
	Pleasant	VMSL 4673	2	Edmund	1 Brown	1249 KB	2192 S		2760 S			2810 S	3320 S	3620 S	3644
	Pleasant	VMSL 6343	4	Capitol City	1 Knox	1247 GL	2172 D								
Clermont	Ohio	VMSL 921	4	Morgan	1 Hannika	740 T	985 S								
	Pierce	VMSL 514	5	Morgan	1 Callaway	681 DF	980 S, G								
	Stonelick	VMSL 681	3	Continental	1 Wikoff	817 KB	1220 S, G					2584 S, G	3135 S	3345 S	3435
Clinton	Washington	VMSL 1458	4	Kewanee	1 Igo	1069 CM	1670 E								
	Wayne	VMSL 808	7	Kewanee	1 McVey	1087 CM	1790 S			2740 S	3089 S, E		3310 S	3460 S	3465
	Wayne	VMSL 1027	1	Kewanee	1 Luttrell	1112 CM	1855 G								
	Wayne	VMSL 1065	2	Kewanee	1 Adams	1080 CM	1743 S, E			2700 S, E	3045 S, E		3250 S	3390 S	3457
	Wayne	VMSL 1065	5	Kewanee	1 Van Pelt	1092 KB	1620 S				2984 S, E		3180 S, E	3218 S	3259
	Wayne	VMSL 6298	9	Lloyd	1 Hudson	1068 KB	1739 D								
	Wilson	VMSL 749	3	Kewanee	1 Bock	1038 CM	1820 E								
Columbiana	Butler	Sec. 31	620	Tri-State	1 Sanor	1310 KB	8439 S, G	8635 S, G							
	Center	Sec. 6	631	Statewide	1 Mrugala	1145 KB	8630 G	8835 S							
	Center	Sec. 7	607	Tri-State	1 Sell	1300 KB	8842 S, G								
	Center	Sec. 18	612	Tri-State	1-A Murray	1216 KB	8806 G								
	Hanover	Sec. 12	648	Management Control	3 Murray	1193 KB	8673 S, G	8905 S		9194 S, G	9310 S, G		10,025 S	NR	10, 242
	Hanover	Sec. 34	559	East Ohio	1 Burrows	1170 KB	8695 S, G	8954 S, G							
	Knox	Sec. 12	592	East Ohio	1 Denny	1163 KB	8089 S, G	8257 S, G							
	Madison	Sec. 15	626	Galey	1 Gilson	1137 KB	9480 S	9880 S							
Coshocton	Clark	Lot 20 (2Q)	96	Ohio Oil	2 Chaney	790 T	5512 D								
	Crawford	Sec. 4	1825	Kin-Ark	1 Cox	1201 KB	6550 G								
	Crawford	Sec. 16	1995	Phillips	1 Brenly	938 KB	6235 G								
	Jefferson	Lot 1 (4Q)	2053	Tatum	1 Lee	1040 KB	5798 S, G			6260 S	6349 S, G		6860 S	6964 S	6970
	Monroe	Lot 32 (3Q)	1330	Natol	1 Johnson	1129 DF	5615 G								
Crawford	Auburn	Sec. 20	43	Kentucky National	1 Stump	1019 KB	3289 G								
	Bucyrus	Sec. 22	5	Plains	1 Blicke	1004 KB	2737 G								
	Chatfield	Sec. 34	50	Hawkins	1 Leonhardt	1008 KB	2980 S, G		3210 S	3290 S	3380 S, G		3650 S	3790 est.	3781
	Cranberry	Sec. 11	41	Mutual	1 Hyringer	974 KB	3116 G								
	Dallas	Sec. 25	42	Hammerstone	1 Harman	966 KB	2506 G								
	Whetstone	Sec. 10N	49	Katex	1 Wagner	1048 KB	3008 G								
Cuyahoga	Mayfield Hts.	Lot 20	117	Benedum-Trees	1 Franz-Eichenberg	1017 GL	5688 S								
Defiance	Farmer	Sec. 29	31	Wand	1 Saltzman	752 DF	2348 G								
	Farmer	Sec. 32	33	Rovell & Johnson	1 Miller	749 DF	2258 G								
	Mark	Sec. 4	17	Brown	1 Geocowets	722 DF	2276 D								
	Mark	Sec. 11	28	Brown	1 Haver	702 DF	2260 S, G					2828 S, G	3390 S	NR	3606
Delaware	Berkshire	Lot 3 (3Q)	129	Eastern	1 Alexander	951 KB	2943 G								
	Berkshire	Lot 4	207	Federal	1 Igo	976 DF	3004 G								
	Berlin	Lot A (2Q)	274	Norman	1 Norris	951 DF	2729 G								
	Brown	Lot 7 (2Q)	242	McClure	1 Smith	992 KB	2828 S, G		3240 S	3320 S	3463 S, G		3800 S	3991 S, G	4035
	Concord	Lot 17 (2Q)	76	Slatzer	1 Moore	914 KB	2471 G								

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Delaware (continued)	Concord	Lot 7	55	Brinkley	1 Wells	952 KB	2412 G								
	Genoa	Lot 4 (4Q)	269	Minnesota-Ohio	1 Lindsey	919 KB	3046 S, G		3470 S	3540 S	3665 S, G		3995 S	4053 S	4070
	Genoa	Lot 6 (1Q)	210	Lewis	2 Evarts	960 DF	3055 G								
	Harlem	Lot 1 (3Q)	77	Algonguin	1 Paul	1037 DF	3268 G								
	Kingston	Lot 2 (1Q)	243	Hadson Ohio	1 Murphy	1039 KB	3202 G								
	Kingston	Lot 12 (1Q)	248	Patrick	1 Clark	1008 DF	3146 D								
	Kingston	Lot 26 (2Q)	237	Poston	1 Harp	994 KB	2948 G								
	Liberty	Lot 1 (3Q)	118	Westbury	1 Coy	943 KB	2538 G								
	Marlboro	Lot 36 (1Q)	69	Atha & Ind. Farm Bureau	1 Moyer	944 KB	2628 D								
	Orange	Lot 11 (3Q)	1	Wise	1 Vance	920 GL	2727 S		3175 S	3250 S	3400 S		3710 S	3845 S	4291
	Orange	Lot 5E (4Q)	119	Kidd	1 McCammon	827 DF	2809 G								
	Oxford	Lot 5 (1Q)	9	Wehmeyer	1 Sprain	996 KB	2903 S		3315 S	3385 S	3535 S		3850 S	4000 S	4026
	Porter	Lot 6 (1Q)	270	Minnesota-Ohio	1 Gregory	1205 KB	3593 S, G		4070 S	4135 S	4242 S, G		4560 S, G	4685 S	4700
	Porter	Lot 8	18	Lauck	1 Fletcher	1098 KB	3448 G								
	Radnor	Lot 12 (2Q)	106	Simcox & Seay	1 Hedges	918 DF	2306 D								
	Radnor	Lot 1 (4Q)	22	Southern Triangle	1 Jones	945 KB	2340 S, G		2700 S	2790 S	2943 S, G		3275 S	3420 D	3420
	Scioto	VMSL 835	71	Kidd	1 Finneran	980 DF	2346 D								
	Thompson	Lot 27	184	Kin-Ark	1 Young	915 KB	2167 G								
	Trenton	Sec. 13	171	Hadson Ohio	1 Clevenger	1087 KB	3387 G								
Erie	Berlin	Lot 9-6 (2Q)	9	Floto & Mammoth	1 Willis	664 KB	3492 G								
	Florence	Lot 97 (1Q)	19	Sun	1 Herman	829 KB	3884 G		4009 G		4092 G		4360 G	4449 G	
	Florence	Lot 98 (1Q)	11	Sun	1 Krysik-Wakefield	828 KB	3865 G		3970 S	4030 S	4086 S, G		4360 S	4455 S	4463
	Florence	Lot 54 (2Q)	25	Tra-Kay	1 Griffith	831 KB	3883 G								
	Florence	Lot 18 (4Q)	26	Neuberger	1 Alaimo	830 DF	3774 G								
	Florence	Lot 48 (4Q)	7	Ohio Fuel	1 Sayler	819 DF	3832 S, G		3949 S	4002 S	4058 S, G		4310 S	4400 S	4424
	Vermilion	Lot 9, tr. 1	21	Murphy	1 Kukes	764 KB	3829 G								
	Vermilion	Sec. 3	28	E & W	1 Peck	630 DF	3619 G								
Fairfield	Clear Creek	Sec. 15	434	Clark	1 Thomas	1099 KB	3619 G								
	Clear Creek	Sec. 33	435	Clark	1 Huffines	1027 KB	3519 G								
	Liberty	Sec. 34	453	Hunting	1-A Fisher	842 DF	3746 G								
	Madison	Sec. 18	436	Clark	1 Trimmer	898 KB	3596 G								
	Rush Creek	Sec. 8	452	Hunting	1 Thomas	991 DF	4498 G								
	Walnut	Sec. 19N	446	Hunting	1-A Taggart	924 DF	3986 G								
Fayette	Concord	VMSL 1002	2	Kewanee	1 Wilson	1017 CM	1764 S		2615 S	2655 S	3028 S, G		3220 S	3340 S	3490
	Jasper	VMSL 5351	4	Kewanee	1 Barnes	1043 CM	1795 S, G			2540 S	2940 S, G		3130 S	3332 S, G	3410
	Perry	VMSL 660	7	Barnwell	1 Cockrill	1002 KB	2005 E								
	Perry	VMSL 5431	6	Kewanee	1 Hoppes	998 GL	1872 D								
	Union	VMSL 3619	3	Kewanee	1 Cavinee	993 CM	1860 G								
	Union	--	1	Kewanee	1 Hopkins	965 CM	1893 S, G			2725 S	3108 S, G		3321 D	3545 S	4707
Franklin	Franklin	VMSL 530	14	Marble Cliff	1 Marble Cliff	697 KB	2270 S		2880 S	2995 S	3121 S, G		3475 S	3606 S	3622
	Perry	Sec. 3	6	Adams	1 Riverside Estates	846 DF	2434 G								
	Pleasant	VMSL 3028	7	Barnwell	1 Oakhurst Country Club	898 KB	2418 D								
	Washington	VMSL 2542	5	Brinkley	1 Orr	903 DF	2475 G								
Fulton	Chesterfield	Sec. 10	22	McClure	1 Deyo	815 KB	3156 G								
	Chesterfield	Sec. 26	21	American Liberty	1 Penning	814 KB	3070 G								
	Clinton	Sec. 17	35	Rockcastle	1 Vonier	765 DF	2838 G								
	Fulton	Sec. 1N	27	Liberty	1 Tautigian	713 DF	2812 S, G								
	Fulton	Sec. 10	26	Liberty	1 Slahunek	723 DF	2796 S, G								
	Fulton	Sec. 32S	28	Liberty	1 Fauble	743 DF	2775 S, G								
	Gorham	Sec. 19	24	McClure	1 Gamble	820 DF	3178 S, G								
	Pike	Sec. 32	16	Dunn	1 Kirkendall	771 DF	2977 G								
	Swan Creek	Sec. 27	49	Liberty	1 Storeholder	690 KB	2616 S, G		3000 S			3040 S	3370 S	3560 S	3700
	York	Sec. 8N	18	Covey & Null	1 Neuswander	785 DF	2785 G								
	York	Sec. 27	15	Wehmeyer	1 Rixleben	720 KB	2626 D								
Geauga	Chardon	Lot 1	D-1	East Ohio	1 Crile	1031 GL	5925 S								

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Greene	Caesar Creek	VMSL 2238	D-6	Sun	1 Marshall	979 GL	1622 D								
	Caesar Creek	VMSL 2812	D-7	Sun	1 Henry	1015 GL	1735 D								
	Miami	Sec. 19	D-8	Midwest	1 Peterson	1020 T	1720 D								
	Spring Valley	VMSL 1044	D-5	Buchanan	1 Pogue	942 T	1537 D								
Guernsey	Adams	Sec. 15	782	Lakeshore	1 Marshall	1007 KB	6956 G	7044 S		7570 S	7690 S		8245 S	8331 S	8602
	Westland	(3Q)	881	Ridge	1 Vessels	1034 KB	7188 G	7304 G							
Hamilton	Crosby	Sec. 13	1	Continental	1 Brisbin	815 KB	1191 S, G								
Hancock	Allen	Sec. 12	138	Plunkett & Shields	1 Hoadley	777 DF	1754 G								
	Allen	Sec. 32	13	Sun	1 Heimhofer	821 GL	1850 D								
	Amanda	Sec. 20	140	Cowen	1 Harris	833 KB	1880 S, G		2090 S			2200 S	2558 S	2795 S	2797
	Big Lick	Sec. 14	6	Sun	1 Heminger	865 GL	1973 D								
	Cass	Sec. 16	119	Continental	1 Baker	786 KB	1835 S								
	Delaware	Sec. 1	121	Jacobs	1 Cunningham	840 T	1883 D								
	Delaware	Sec. 12	131	Jacobs	1 Howard	855 GL	1904 D								
	Eagle	Sec. 14	143	O'Neill	1 Stahl	840 KB	1830 G								
	Jackson	Sec. 4	136	Plunkett & Shields	1 Elsea	805 KB	1798 G								
	Jackson	Sec. 6	152	Kin-Ark	1 Drummelsmith	809 KB	1820 S, G		2115 S			2210 S	2550 S	2795 S	2807
	Jackson	Sec. 21	118	Continental	1 Butler	840 KB	1880 S								
	Jackson	Sec. 21	135	Plunkett & Shields	1 Doty	829 KB	1777 G								
	Jackson	Sec. 30	151	Ashland	1 Cotner	848 KB	1817 G								
	Liberty	Sec. 28	150	Ashland	1 Cramer	793 KB	1918 G								
	Madison	Sec. 17	117	Continental	1 Essex	891 KB	1886 G								
	Marion	Sec. 34	145	Dever	1 Altman	796 DF	1820 G								
	Union	Sec. 24	139	Shannon	1 Frazier	824 DF	1895 S, G		2297 S			2395 S	2700 S	3008 S	3017
	Union	Sec. 24	142	Dever	1 Walters	811 DF	1917 G								
	Union	Sec. 25	146	Dever	1 Schwinn	829 DF	1893 G								
	Washington	Sec. 11	147	Hudson	1 Wedge	785 GL	1939 D								
Hardin	Blanchard	Sec. 34	86	Turner	1 Lotz	911 DF	1836 G								
	Buck	VMSL 10,048	94	Cal-O-Tex	1 Salyer	1040 KB	1947 G								
	Cessna	Sec. 17	106	Ferguson	1 Beaman	995 GL	1909 D								
	Dudley	VMSL 10,172	81	Brown	1 Rapp	980 KB	1900 D								
	Dudley	VMSL 15,523	87	Williams	1 Elsasser	931 DF	1829 G								
	Dudley	Sec. 4	79	McMahon-Bullington	1 Wolf	971 KB	1926 S, G		2240 S			2335 S	2750 S	NR	2940
	Goshen	Sec. 7	89	Turner	1 Winebrenner	924 DF	1886 G								
	Hale East	VMSL 10,900	107	McMahon-Bullington	1 Kennedy	1036 DF	1982 D								
	Jackson	Sec. 30	74	Edmund	1 Jones	941 KB	1801 S, G		2150 S			2220 S	2590 S	2840 est.	2835
	Liberty	Sec. 36	75	Humble	1 Marling	946 DF	1912 G								
	Lynn	VMSL 12,096	82	Cowen	1 Dulin	1003 DF	1929 G								
	Marion	Sec. 27	97	Seibert	1 Scioto Land	971 DF	1884 G								
	Taylor Creek	VMSL 10,296	102	Reliance	1 Bidwell	1065 GL	1995 D								
Harrison	Green	Sec. 28S	103	McCormick	1 Birney	1127 KB	9647 S, G	10,133 S,G							
Henry	Freedom	Sec. 23	20	Lesh	1 Badenhop	718 KB	2553 G								
	Marion	Sec. 2	23	Weikel	1 Lange	709 GL	2122 D								
	Monroe	Sec. 5	21	Bell & Gault	1 Biggs	684 GL	2286 D								
	Ridgeville	Sec. 20	19	Frey	1 Frey	720 DF	2562 G								
Highland	Fairfield		1	Kewanee	1 Pavey	1043 KB	1803 S, G		2645 S	2680 S	3085 S		3295 S	3515 est.	3512
	Fairfield		7	Ohio Valley	1 Courtney	957 DF	1819 S, G		2660 S	2676 S	3115 S, G		3369 S	3573?	3610
	Paint	VMSL 2301	3	Ohio Valley	1 Peabody	880 GL	1944 G								
	Penn	VMSL 2326	4	Amerada	1 Wright	1139 KB	1884 G								
Hocking	Marion	Sec. 10	1342	Turrill	1 Whitmer	773 DF	4322 S	4398 S, D							
	Starr	Sec. 31	1222	Dunigan	1 Hockman	970 KB	4978 S, G	5128 S, G	5765 S	5860 S	5967 S, G		6400 S	6470 S	6495

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Holmes	Berlin	Lot 12	1279	Amerada	1 Geib	1088 KB	6396 G								
	Clark	Sec. 18	1297	Kin-Ark	1 Erb	1123 KB	6538 G	6538 G							
	Clark	Sec. 22	1391	Kin-Ark	1 Raber	1160 KB	6565 D	6585 D							
	Clark	Sec. 23	1328	Kin-Ark	1 Erb	1062 KB	6416 S, G	6458 S, G							
	Clark	Sec. 23	1352	Kin-Ark	1 Funk	1158 KB	6530 G	6538 G							
	Hardy	Sec. 24	1288	Amerada	1 Force	932 KB	5900 G								
	Prairie	Sec. 5	1312	Chapman & Parker	1 Schlegel	1085 DF	5662 G								
	Salt Creek	Sec. 25	1283	Chapman & Parker	1 Troyer	1316 KB	6412 S, G			6585 S	6668 S, G		NR		7369
	Walnut Creek	Sec. 5	1351	Kin-Ark	1 Garber-Miller	1211 KB	6636 G	6636 G							
	Washington	Sec. 6	1299	Harris	1 Baldner	1274 KB	5019 G								
Huron	Bronson	Lot 9	62	McMahon-Bullington	1 Maxwell	805 DF	3361 G								
	Bronson	Lot 9	81	Lake Shore	1 Knupke	919 DF	3537 G								
	Bronson	Lot 32	58	Kin-Ark	1 Lawrence	833 KB	3360 G								
	Clarksfield	Lot 3	72	Reliance	1 Leitner	915 DF	4051 G								
	Clarksfield	Lot 23	69	Lake Shore	1 Spoerr	943 KB	3951 G								
	Fitchville	Lot 6 (1Q)	32	Roberts	1 Wargo	969 GL	3883 D								
	Fitchville	Lot 31 (3Q)	43	Kin-Ark	1 Clayton-Credelius	1003 KB	3753 G								
	Fitchville	Lot 42 (3Q)	42	Kin-Ark	1 Gray	1021 KB	3801 G								
	Fitchville	Lot 13 (4Q)	47	Trolz	1 Rice	1011 DF	3828 D								
	Fitchville	Lot 46 (4Q)	74	Ashland	1 Reddick	998 KB	3838 G								
	Greenfield	Lot 40 (3Q)	25	Pure	1 Wheeler	891 KB	3271 S, G		3425 S	3500 S	3570 S, G		3830 S	NR	3865
	Greenfield	Lot 9 (4Q)	33	Bradley	1 Smith	880 RF	3260 G								
	Hartland	Lot 33S (2Q)	84	Stocker & Sitler	1 Johannsen	949 KB	3770 G								
	Hartland	Lot 33N (2Q)	67	Holtom	1 Metz-Kettel	934 DF	3811 G								
	Hartland	Lot 5S (3Q)	75	Stocker & Sitler	1 Stacker	953 DF	3779 G								
	Hartland	Lot 6S (4Q)	60	Stocker & Sitler	1 Ernsberger-Gerstenberger	955 KB	3820 G								
	Lyme	Lot 27 (3Q)	41	South Union	1 Yingling	794 KB	2930 G								
	New Haven	Lot 105 (1Q)	39	Stocker & Sitler	1 Jopland-Chapman	966 DF	3498 G								
	New London	Lot 20 (3Q)	40	Colorado	1 Rumbaugh	949 KB	4011 G								
	Norwich	Lot 14	35	Horn	1 Hillis	914 DF	3085 G								
	Richmond	Lot 5 (2Q)	30	Reliance	1-A Niedermeier	957 DF	3133 G								
	Ripley	Lot 33 (1Q)	36	Hadson Ohio	1 Willet	1044 KB	3810 G								
	Townsend	Lot 58	50	Hefner	1 Hyde	884 KB	3748 G								
	Wakeman	Lot 12	70	Trolz	1 Peabody	859 KB	3814 G								
Jackson	Franklin	Sec. 23	76	Halbert	1 Wood	816 KB	4612 S, G	4770 S	5510 S	5570 S	5738 S, G		6150 S	6230 S	6320
	Franklin	Sec. 31	79	Halbert	1 Brown	844 KB	4270 S	4425 S							
Knox	Clinton	Lot 20 (3Q)	1535	Pyramid	1 Perrin	1203 KB	4275 G								
	College	Lot 28	1521	Carver-Dodge	1 Hall	1117 KB	4517 G								
	Hilliar	Lot 9 (3Q)	1489	Atha	1 Cordle	1154 DF	3777 G								
	Hilliar	Lot 21 (3Q)	1604	Kin-Ark	1 Huffman	1183 KB	3737 S, G		4150 S	4220 S	4317 S, G		4660 S	4773 S	4810
	Liberty	Lot 20 (1Q)	1885	Collins	1 Dudgeon	1183 DF	4172 G								
	Liberty	Lot 6 (2Q)	1788	Sohio	1 Horn	1260 KB	4049 G								
	Middlebury	Sec. 19	1586	Sohio	1 Tugend	1111 KB	4025 G								
	Milford	Lot 6 (3Q)	1855	Lake Shore	1 Dixon	1227 KB	4130 G								
	Milford	Sec. 10	1468	Ohio Fuel	1 Larimore	1204 KB	4245 S, G		4620 S	4730 S	4823 S, G		5190 S	5364 S	5370
	Miller	Lot 11 (4Q)	1625	S. W. B.	1 Daubenmire	1028 DF	4115 G								
	Morris	Lot 8	1507	Cavalier	1 Fearn	1181 KB	4398 G								
	Pike	Sec. 6N	1418	Ringler	1 Drushall	1324 DF	4651 G								
	Pike	Sec. 9	1413	Cantway	1 Cunningham	1253 KB	4755 S		5130 S	5220 S	5261 S, G		5665 S, G	NR	5745
	Wayne	Lot 10 (3Q)	1528	McClure	1 Sherry	1181 KB	3970 G								
Lake	Perry	Lot 47	142	Calhio	1 Calhio	701 KB	5379 S		5540 S	5640 S	5736 S, G		?	6065 S	6076
Lawrence	Elizabeth	Sec. 27	219	Eaststates	1-A Cambria Clay	734 KB	4834 G	5139 G							
	Symmes	Sec. 13	174	Goldberg	1 Payne	609 KB	5130 G	5460 G							

County	Township	Land subdivision	Permit number	Operator	Well number and lease name	Elevation at well head (ft above sea level)	Depth (ft)								Total depth of samples (ft)
							Top of Knox	Top of Rose Run	Top of Kerbel	Top of Conasauga	Top of Rome	Top of Eau Claire	Top of Mt. Simon	Top of Precambrian	
Licking	Burlington	Lot 5 (3Q)	2051	Southern Triangle	1 Swetnam	1099 KB	4230 G								
	Burlington	Lot 17 (4Q)	2300	Lake Shore	1 Shipley	1230 KB	4535 G								
	Eden	Sec. 7	2130	Moore & Lake Shore	1 Beatty	1165 KB	4786 G								
	Eden	Sec. 17	2030	Lake Shore	1 Booth	1140 KB	4771 G								
	Eden	Sec. 17	2129	Lake Shore & Moore	1 Swick	1185 KB	4860 G								
	Etna	Sec. 5	2272	Lake Shore	1 Snider	1031 KB	3785 G								
	Etna	Sec. 6	2163	M & M	1 Kuhnimhof-Campbell	1037 KB	3724 G								
	Etna	Sec. 17	2319	E & W	1 Senff	1065 GL	3823 G								
	Granville	Lot 4 (2Q)	2378	Stocker & Sitler	1 Blackstone-Quick	1048 KB	4152 G								
	Granville	Lot 6 (2Q)	2066	Southern Triangle	1 White	1047 KB	4158 G								
	Hanover	Sec. 23	2254	Olympic	1 Welch	884 KB	4983 G								
	Harrison	Lot 16 (3Q)	2191	Zenith	1 Smoke	982 KB	3763 G								
	Harrison	Lot 20 (3Q)	2224	Buckeye	1 Atkinson	989 KB	3740 G								
	Hartford	Lot 8 (2Q)	1836	Patten	1 Canaday	1167 DF	3692 G								
	Hartford	Lot 8 (2Q)	2033	Atha	2 Canaday	1161 KB	3704 G								
	Hartford	Lot 1 (3Q)	2206	Kin-Ark	1 Grube	1165 KB	3760 G								
	Hartford	Lot 2 (3Q)	2057	Atha	1 Roberts	1179 KB	3805 S, G		4220 S	4315 S	4410 S, G		4765 S	4914 S	4915
	Hartford	Lot 11 (3Q)	1979	Brasel & Brasel	1 Edwards	1164 DF	3816 G								
	Hartford	Lot 2E (4Q)	1803	Patten	1 Martin	1187 DF	3822 D								
	Hartford	Lot 2E (4Q)	2047	Atha	2 Martin	1179 KB	3822 G								
	Hartford	Lot 2E (4Q)	1998	Atha	1 Mulligan	1180 DF	3862 G								
	Jersey	Lot 5N (1Q)	2189	Great Basins	1 Chapdelaine-Smith	1147 KB	3937 G								
	Jersey	Sec. 20	2735	Ephraim	1 Helphrey	1257 DF	3960 S, G								
	Liberty	Lot 16 (1Q)	1981	Lake Shore	1 Droke	1307 KB	4228 G								
	Lima	Lot 16 (3Q)	2252	Ashland	1 Schmelzer	1068 KB	3623 S, G		4140 S	4230 S	4321 S, G		4670 S	4789 S	4802
	Mary Ann	Lot 15 (1Q)	1826	Lake Shore	1 Crowley	1060 KB	4853 S, G		5293 S	5375 S	5439 S, G		5870 S	5978 S	5991
	Mary Ann	Sec. 3	1973	Lake Shore	1 Bieberbach	1096 KB	4875 G								
	St. Albans	Lot 10 (4Q)	2067	Southern Triangle	1 Preston	1149 KB	4158 G								
	Union	Lot 13 (1Q)	2273	Jackson	1 Rowland	1029 KB	4267 G								
	Union	Lot 12 (2Q)	2294	Lake Shore	1 Deeds	1063 KB	4168 G								
	Union	Lot 6 (3Q)	2181	Burrell	1 Adams	1076 DF	4143 G								
	Union	Lot 2 (4Q)	2219	Natol	1 St. Peter & Paul Seminary	995 KB	4259 G								
Logan	Bokes Creek	VMSL 7995	55	Hadson Ohio	1 Walton	1091 KB	2031 G								
	Jefferson	VMSL 5088	31	Humble	1 Heminger	1385 DF	2298 G								
	Lake	VMSL 3322	50	Ross	1 Ward	1317 DF	2210 D								
	McArthur	VMSL 9930	18	Ohio Oil	1 Johns	1190 DF	2069 S		2490 S			2515 S	2945 S	3252 S	3361
	Monroe	VMSL 3224	20	Tait	1 McKeever	1244 GL	2053 D								
	Perry	VMSL 4210	45	B & H	1 Robson	1097 T	2015 D								
	Washington	Sec. 6	82	Midwest	1 Goebel	992 DF	1818 G								
	Zane	VMSL 3680	48	Pruitt	1 De Vault	1168 KB	2110 G								
Lorain	Brighton	Lot 9, tr. 7	795	Ohio Fuel	1 Burge	887 DF	4269 D								
	Brighton	Lot 32, tr. 8	854	Midland	1 Gregg	906 DF	4206 G								
	Brighton	Lot 33, tr. 8	837	Pure	1 Fehlan	919 KB	4174 G								
	Brownhelm	Lot 38	912	Kapp	1 Ellison	730 KB	3940 G								
	Camden	Lot 8, tr. 9	984	Kubat	1 Lauener	872 KB	4182 G								
	Grafton	Lot 56	859	Great Basins	1 Maurer	886 KB	4794 G								
	Henrietta	Lot 8	794	East Ohio	1 Born	850 DF	3971 S, G		4111 S	4155 S	4202 S, G		4480 S	4573 S	4590
Madison	Canaan	VMSL 7791	2	Weed	1 Rickard	977 DF	2193 G								
	Fairfield	VMSL 9717	3	Amerada	1 Hume	995 KB	2260 S		2870 S	2900 S	3060 S, G		3410 S	3617 S	3631
	Jefferson	VMSL 7628	4	Amerada	1 Engle	995 KB	2163 G								
Mahoning	Ellsworth	Sec. 15	250	Liberty	1 Meyers	1070 GL	7990 S	8110 S							
	Smith	Sec. 4	123	El Paso	1 Brenner	1069 KB	7640 S, G								
	Smith	Sec. 4	212	Kin-Ark	1 Brenner	1080 KB	7646 G	7760 G							

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							Top of Knox	Top of Rose Run	Top of Kerbel	Top of Conasauga	Top of Rome	Top of Eau Claire	Top of Mt. Simon	Top of Precambrian	
Marion	Big Island	Sec. 24	42	Crawford	1 Conway	925 KB	2210 G								
	Big Island	Sec. 33	83	Ragsdale & Crain	1 Basel	914 DF	2081 G								
	Bowling Green	VMSL 9980	56	Merrill	1 Mattix	926 GL	1818 D								
	Bowling Green	VMSL 10,299	92	Gibraltar	1 Guthrey	920 GL	1953 D								
	Claridon	Sec. 3	14	Adams	1 Key	999 DF	2747 G								
	Claridon	Sec. 27	9	United	1 Mitchell	1001 KB	2646 S, G		3070 S	3150 S	3275 S, G		3600 S	3665 S	3675
	Claridon	Sec. 32	49	Midland	1 Gruber	981 KB	2612 G								
	Grand	Sec. 25	62	Meese	1 Sims	884 DF	1961 D								
	Grand	Sec. 31	80	Kentucky	1 Fogle	916 GL	1912 D								
	Grand Prairie	Sec. 24	61	Mitchell	1 Kennedy	965 GL	2550 G								
	Green Camp	VMSL 9967	54	Santoro	1 Aiken	930 GL	2060 D								
	Marion	Sec. 3	96	T. L. M.	1 Linn	957 GL	2384 D								
	Montgomery	Sec. 26	58	Everett & Harding	1 Carozzo & Cancro	915 GL	1996 D								
	Pleasant	Sec. 13	93	Lohmann-Johnson	1 Ackerman	982 KB	2492 D								
	Pleasant	Sec. 29	87	Hadson Ohio	1 Cusick	953 KB	2337 G								
	Prospect	Lot 18 (4Q)	82	Piggott	1 Holt	967 KB	2400 G								
	Richland	Sec. 10	15	Clinton	1 Stose	981 DF	2701 G								
	Richland	Sec. 22	89	Cities Service	1 Yake	987 KB	2650 D								
	Salt Rock	Sec. 15	23	Meese	1 Lane	892 DF	2008 G								
	Scott	Sec. 21	10	United & Lake Shore	1 Pugh	1016 KB	2690 G								
	Scott	Sec. 36	65	Ideal & Comanche	1 Harrison	1005 KB	2807 G								
	Tully	Sec. 27	103	Lake Shore	1 Hedding	1035 KB	3068 G								
	Tully	Sec. 30	9	Lake Shore	1 Landis	1012 KB	2872 G								
	Waldo	Lot 4 (1Q)	6	Atlas	1 Denzer	963 GL	2658 D								
	Waldo	Sec. 35	101	Cities Service	1 Hecker	967 GL	2379 D								
Medina	Granger	Lot 42	1201	Wiser	1-A Warner	1117 KB	5795 S, G			5920 S	6053 S, G		6540 S	6662 S, G	6728
	Guilford	Sec. 3	1431	Obermiller	1 Shook	1152 DF	5733 D								
	Hinckley	Lot 52	1256	Wiser	2 Divoky	1250 DF	5870 G								
	Hinckley	Lot 54	1325	Ohio Fuel	1-B Cleveland Trust	1000 KB	5580 G								
	Hinckley	Lot 69	1143	Wiser	1-A Smith	1200 KB	5787 S		5834 S	5920 S	6022 S, G		6520 S	6580 S	7040
	Hinckley	Lot 70	1214	Wiser	3-A Hier	1237 KB	5875 G								
	Hinckley	Lot 72	1285	Wiser	2-A Smith	1204 DF	5832 G								
	Medina	Lot 2	1296	Ohio Fuel	1 Deiss	1105 DF	5604 G								
	Westfield	Lot 39	1349	King	2 Robertson	1042 T	5455 D								
Mercer	Center	Sec. 1	135	Berentz	1 Roebuck	831 GL	1690 D								
	Center	Sec. 4	141	Harner Union	2 Yewey	838 DF	1679 S, G					2365 S	2853 S	3150 S	3214
	Franklin	Sec. 35	128	Skiles	1 Hein	900 GL	1690 D								
	Jefferson	Sec. 1	129	Boose	1 Zumberg	862 G	1672 D								
	Recovery	Sec. 30	3	Henderson & Rhodes	1 Heckathorn	935 GL	1605 D								
Miami	Brown	Sec. 2	11	McHale	1 Roemisch	1138 DF	1914 G								
	Brown	Sec. 30	12	Teeters	1 Yingst	1060 T	1761 D								
	Lost Creek	Sec. 13	3	National	1 Walker	1035 KB	1749 S, G					2550 S	3090 S	3250 S	3513
	Staunton	Sec. 1S	8	Pettit	1 Trojan Farms	805 KB	1516 S, G								
	Staunton	Sec. 4S	9	Pettit	1 Knoop	860 KB	1584 G								
	Washington	Sec. 3	1	Sun	1 Levering	995 DF	1626 S, G					2504 S	3008 S	3280 S	3408
Morgan	Deerfield	Sec. 12	536	National	1 Barnes	925 GL	6502 S	6601 S							
Morrow	Bennington	Lot 13 (3Q)	1388	Wray	1 McBee	1140 KB	3396 S, G	Samples not in place			3957 S, G		4370 S	4445 S	4450
	Bennington	Sec. 11	1700	Buckeye	1 Dupee	1230 DF	3699 G								
	Bennington	Fr. sec. 13	142	Southern Independent	1 Cramer	1171 DF	3504 G								
	Canaan	Sec. 4	3080	Wilburn	1 Cox	1036 DF	3027 G								
	Canaan	Sec. 19	2550	Otter Creek	1 Irey	1004 KB	2925 S		3210 S	3320 S	3460 S		3760 S	3875 S	3876
	Canaan	Sec. 33	12	Ashland	3 Myers	1016 KB	2978 S, G		3315 S	3390 S	3540 S, G		3865 S	4002 S, G	4090
	Cardington	Sec. 18	1935	Comanche	1-C Bush	998 KB	2839 S, G		3210 S	3300 S	3428 S, G		3741 S	NR	3865
	Chester	Lot 4 (2Q)	1590	Chief	1 Ault	1148 DF	3600 G								
	Chester	Lot 3 (4Q)	2495	McClure	1 Wood	1222 KB	3850 D								
	Chester	Lot 26 (4Q)	2477	Barron	1-A Donovan	1141 KB	3755 D								

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Morrow (continued)	Congress	Sec. 11	1915	Thomas	1 Ruhl	1378 DF	3860 G								
	Congress	Sec. 33	1846	Bernard-Burrows	1 Kerr-Potter	1244 KB	3644 G								
	Franklin	Sec. 5E	2264	Investment	1 Beck	1322 KB	3960 G								
	Franklin	Sec. 12	1579	Williams	1 Sherman	1349 KB	3920 G								
	Franklin	Sec. 16	101	Shrider	1 England	1203 DF	3636 G								
	Gilead	Sec. 23	1859	Calvert & Eastern	1 Howard	1131 KB	3276 G								
	Gilead	Sec. 24N	2345	Ashland	1 Corbin	1161 KB	3320 G								
	Gilead	Sec. 35	210	Cummins	1 Stover	1047 DF	3122 G								
	Harmony	Sec. 9	1909	Leighton	1 Frey	1225 DF	3637 G								
	Lincoln	Lot 25 (4Q)	190	Lake Shore	1 Dunham	1038 KB	3096 G								
	Lincoln	Sec. 24	2518	Kin-Ark	2 Showalter	1014 KB	2989 G								
	North Bloomfield	Sec. 31	1496	Kin-Ark & Lake Shore	1 Pickering-Myers	1212 GL	3423 D								
	Perry	Sec. 20	2517	Sohio	1 Lauker	1408 KB	4035 G								
	Peru	Lot 9 (1Q)	1773	Dynamic Mineral	1 Davis	1040 KB	3130 G								
	Peru	Lot 16 (1Q)	1681	Kin-Ark	5 Shaver-Neff	1007 KB	3051 S, G		3490 S	3590 S	3700 S, G		4043 S	4195 S	4215
	Peru	Lot 8 (4Q)	2626	Lake Shore	2 Ferko	1015 KB	3097 G								
	Peru	Fr. sec. 15	1778	Kin-Ark	1 Sticklin	990 KB	2897 G								
	South Bloomfield	Sec. 3	690	Ringler	1 Herrod	1272 DF	3862 G								
	South Bloomfield	Sec. 25	93	Ferguson	1 Hawkins	1296 DF	3794 G								
	Troy	Sec. 18	47	Pan American	1 Windbigler	1398 KB	3896 G		4260 S	4315 S	4405 S, G		4750 S	4870 S	4890
	Westfield	Sec. 21	33	Wehmeyer	1 Henry	995 KB	2880 S		3300 S	3390 S	3510 S		3865 S	4009 S	4048
Muskingum	Blue Rock	Sec. 11	778	National	1 Crawford	982 GL	6775 S								
	Salt Creek	Sec. 10	787	National	1 Wickham	905 T	6543 S	6615 S							
	Salt Creek	Sec. 26	689	Indiana	1 Whitmire	806 GL	6605 S	6700 S							
Noble	Elk	Sec. 31	1278	Amerada	1 Ullman	1035 KB	9374 G	9986 S, G		10, 563 S	10, 610 S		11, 235 S	11, 410 S	11, 442
Ottawa	Carroll	Sec. 9	44	Wenner	1 Moore	576 DF	2274 S								
Paulding	Benton	Sec. 17	6	Centurian	1 Lincoln Bank	758 DF	1847 G								
	Brown	Sec. 29	4	Myers	1 Sherry	720 KB	1968 G								
Perry	Thorn	Sec. 4	2321	Petrol	1 Hayes	902 DF	4496 G								
Pickaway	Deer Creek	VMSL 4016	3	McMahon-Bullington	1 Dunlap	722 KB	2278 G								
	Deer Creek	VMSL 4016	13	Clarkson	1 Lindsey	759 KB	2302 G								
	Deer Creek	VMSL 6942	8	Clarkson	1 Snyder	758 KB	2388 G								
	Jackson	VMSL 7947	4	McMahon-Bullington	1 Croman	797 KB	2279 S, G		3005 S	3090 S	3248 S		3595 S	3740 est.	3730
	Monroe	VMSL 4290	2	Kewanee	1 Long	856 DF	2155 S		2765 S	2850 S	2980 S			3185 S	3255
	Muhlenberg	VMSL 1347	12	McMahon-Bullington	1 Long	793 KB	2240 D								
	Pickaway	Sec. 7W	6	Midwest	1 Miller	693 DF	2697 S, G		3330 S	3410 S	3615 S, G		3949 S	4148 S	4160
	Scioto	VMSL 6115	10	Hadson Ohio	1 Graham	794 KB	2495 G								
	Walnut	Sec. 33	17	Phillips & Cavalier	1 Heffner	830 KB	2937 G								
Pike	Beaver	Sec. 35	1	White	1 Bapst	708 G	3454	3559	(from sample description by R. E. Lamborn)						
	Jackson	Sec. 10E	35	Ohio Fuel	1 Reisinger	775 DF	3537 S, G	3577 S							
	Jackson	Sec. 10E	36	Orwig	1 Frick	1001 KB	3737 S, G	3794 S							
	Pebble		29	Well Supervision	1 Conley	941 KB	2734 S, G								
	Pee Pee	VMSL 2863	30	Well Supervision	1 Nye	672 DF	2776 G								
	Pee Pee	VMSL 8942	33	Katex	1 Easterday	762 KB	2895 S, G								
	Seal	Sec. 15	34	Parker	1 Gregg	686 KB	2975 S, G								
	Seal	Sec. 19	32	Well Supervision	1 Burton	885 DF	3217 G								
	Sunfish	VMSL 13,711	28	Shure	1 Williams	634 DF	2436 G								
	Union	Sec. 26	27	Southern Triangle	1 Wooddell	773 DF	3305 S, G	3340 S							
Portage	Rootstown	Lot 15	167	East Ohio	1 Harville	1172 KB	7033 G	7071 G							
Putnam	Liberty	Sec. 29	31	Ohio Oil	1 Barlage	740 GL	2070 S		2547 S			2600 S	2900 S	3250 S	3377
	Riley	Sec. 24	46	Dever	1 Hanenstein	803 DF	1888 D								
	Union	Sec. 22	44	Hamblin	1 Riendel	730 G	1961 D								

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Richland	Blooming Grove	Sec. 28	286	Southern Triangle	1 Barnd	1136 KB	4048 G								
	Butler	Sec. 5	259	Ringler	1 Troxel	1111 DF	4272 G								
	Butler	Sec. 30	389	Ashland	1 Mast-Johnson	1142 KB	4305 G								
	Cass	Sec. 2	348	Baines	1 Gilger	1083 KB	3804 G								
	Franklin	Sec. 15	312	Gallagher	1 Oswalt	1105 KB	4147 G								
	Jackson	Sec. 3	297	Van Tuyl	1 Hohler	1105 KB	3797 D								
	Jefferson	Sec. 21	276	Mammoth	1 McConkie	1179 GL	4260 G								
	Madison	Sec. 16	448	Empire Reeves	1 Empire Reeves	1176 KB	4197 S, G		4440 S	4560 S	4634 S, G		4993 S	5061 D	5081
	Troy	Sec. 35	270	Pan American	1 Mertler	1279 KB	4043 G								
	Washington	Sec. 14	431	Tri-State	2 Scott	1458 KB	4565 S, G		4900 S	4995 S	5052 S, G		5405 S	5497 S	5503
Ross	Buckskin		5	Reliance	1 Fuller	942 DF	2226 G								
	Colerain	Sec. 9	10	Hammerstone & Hadson	1 Shaal	858 KB	3365 D								
	Colerain	Sec. 19	11	Hammerstone & Hadson	1 Zeigler	898 KB	3292 S, G								
	Colerain	Sec. 36	19	Hammerstone & Hadson	1 Tar Hollow State Forest	820 KB	3550 S								
	Concord		9	Crest	1 Clark	1035 KB	2316 S, G		3060 S	3105 S	3307 S, G		3660 S	3845 S	3862
	Deerfield	VMSL 599	12	Amerada	1 Borreson	832 KB	2172 G								
	Green	Sec. 18	8	Well Supervision	1 Immel	695 DF	2792 S, G								
	Green	Sec. 28	16	Hammerstone & Hadson	1 Conoway	871 KB	3089 S, G								
	Harrison	Sec. 9	6	Holl & Coffman	1 Coffman	740 KB	3349 S, G								
	Harrison	Sec. 30	13	Hammerstone & Hadson	1 Carper	678 KB	3156 S, G								
	Jefferson	Sec. 34	7	Well Supervision	1 Oyer	625 DF	3321 S, G								
	Liberty	Sec. 9	14	Hammerstone & Hadson	1 Cryder	640 KB	3215 S								
	Springfield	Sec. 1E	18	Hammerstone & Hadson	1 Scott	827 KB	3207 S, G								
Sandusky	Ballville	Sec. 11	133	Spindale	1 Miller	646 DF	2208 G								
	Ballville	Sec. 31	103	Emme	1 Tolento	676 DF	2064 G								
	Ballville	Sec. 31	126	C & E	1 Recker	675 DF	2061 G								
	Madison	Sec. 22	146	Maguire	1 Aleshire-Marathon	706 KB	2056 G								
	Riley	Sec. 8	140	Ashland	1 Trick	587 KB	2234 G								
	Riley	Sec. 26	210	Ohio Liquid Disposal	1 Fee	620 KB	2366 S, G		2425 S	2530 S	2605 S, G		2810 G	2932 D	2815
	Scott	Sec. 12	137	Ashland	1 Haven	711 KB	2050 G								
	Scott	Sec. 21	104	Maguire	1 Lehman	713 T	2024 D								
	Townsend	Sec. 3	124	Harris & Schulz	1 Meggitt	589 GL	2491 D								
	Townsend	Sec. 29	138	Ashland	1 Wobser	649 KB	2503 G								
	Townsend	Sec. 33	77	East Ohio	1 Haff	644 DF	2512 S, G		2528 S	2639 S	2745 S, G		2958 S	3092 S	3123
	Washington	Sec. 22	134	Commonwealth	1 Lilley	651 DF	2082 G								
	Washington	Sec. 23	139	Commonwealth	1 Warner	637 DF	2036 G								
	Washington	Sec. 24	141	Ashland	1 Miarer	658 KB	2086 G								
	Washington	Sec. 31N	117	Dunigan	1 Avers	633 KB	2064 S, G		2095 S	2210 S	2301 S, G		2520 S	2706 S	2715
	Washington	Sec. 35S	148	Chief	1 Logenbach	663 DF	2097 G								
	Woodville	Sec. 9S	D-1	Ohio Oil	1 Bruns	650 GL	1982 S		2052 S	2172 S	2260 S		2477 S	2667 S	2822
	Woodville	Sec. 36	147	Maguire	1 Kerbel	647 KB	2051 S, G		2100 S	2220 S	2308 S, G		2530 S	2760 S, G	2785
Scioto	Green		212	U. S. S. Chemicals	1 U. S. S. Chemicals	557 KB	3988 S, G	4225 D		5070 S	5219 S, G		5514 D	5580 D	5617
	Harrison	Sec. 17	202	Young & Henneberger	1 Will	923 DF	3823 S, G	3909 S							
Seneca	Adams	Sec. 27	161	Ashland	1 Hopfinger	804 DF	2535 G								
	Adams	Sec. 31	128	Ashland	1 Stigamire	796 KB	2427 S, G		2560 S	2650 S	2730 S, G		3040 S	3140 S	3174
	Adams	Sec. 32	149	Ashland	1 Rule	799 KB	2462 G								
	Big Spring	Sec. 30	127	Comanche	1 Newcomer Lands	823 DF	1925 D								
	Bloom	Sec. 31	133	Kissinger	1 Keller	940 DF	2516 D								
	Eden	Sec. 21	98	Sun	1 Downs	838 KB	2361 G								
	Hopewell	Sec. 4	146	Kin-Ark	1 Vogel	765 KB	2095 G								
	Hopewell	Sec. 21	104	Floto-Brasel	1 Kummerer	775 DF	2197 G								
	Liberty	Sec. 8	144	Hadson	1 Waldvogel	724 DF	2067 G								
	Liberty	Sec. 13	150	McMahon-Bullington	1 McDonald	702 DF	2092 G								
	Liberty	Sec. 36	103	McMahon-Bullington	1 Ewald	738 KB	2095 G								
	Pleasant	Sec. 5	148	Shure	1 Watson	677 DF	2110 G								

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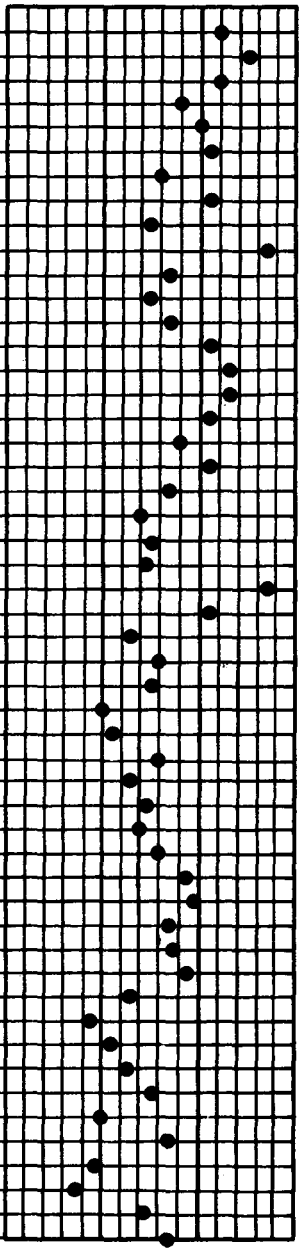
Seneca (continued)	Reed	Sec. 17	147	Mt. Carmel	1 Smith	905 GL	2782 D								
	Scipio	Sec. 17	132	Duncan	1 Oakleaf	838 DF	2597 G								
	Scipio	Sec. 34	113	Wray	1-A Gooding	954 DF	2664 G								
Shelby	Cynthian	Sec. 30	27	B. B. & M.	1 Goffena	998 T	1725 D								
	Dinsmore	Sec. 18	23	Dee	1 Becker	975 GL	1848 D								
	Perry	Sec. 24	12	Sun	1 Nelson	1050 DF	1822 S, G					2464 S	3000 S	3140 S	3265
	Salem	Sec. 3	13	Gump	1 Fogt	1037 GL	1832 S					2492 S	2990 S	3282 S	3360
	Salem	Sec. 17E	20	Fairway	1 Motter	1058 KB	1906 G								
	Van Buren	Sec. 12	25	Dee	1 Brandt	986 KB	1788 G								
Stark	Canton	Sec. 25	1999	MB	1 Sponseller	1190 KB	7435 G	7463 G							
	Lake	Sec. 10	1054	East Ohio	1 Bixler	1200 KB	7102 D								
	Lake	Sec. 11	1052	Belden & Blake	1 Graber	1152 DF	7139 G								
	Lexington	Sec. 32	1123	East Ohio	1 Frederick	1122 KB	7580 S, G	7608 S, G							
	Marlboro	Sec. 17	1081	Belden & Blake	1 Westfall	1144 KB	7273 S, G	7273 S, G		7504 S, G	7659 S, G				
	Sandy	Sec. 3	2001	Texaco	1 Rarric	1045 KB	7682 S, G	7725 S							
Summit	Bath	Lot 21	292	Belden & Blake	1 Laughlin	1175 KB	6000 G								
	Franklin	Sec. 29	1 0	East Ohio	1 Knight	1130 KB	6384 G								
Tuscarawas	Clay	Sec. 14N	955	Stocker & Sitler	1 Mizer	1161 KB	7349 G	7535 G							
	Clay	Sec. 20	952	Stocker & Sitler	1 Harding	936 KB	7500 G	7638 G							
	Rush	Sec. 25	1030	Stocker & Sitler	2 Huebner	1221 KB	7907 S, G	8072 S, G							
	Sugar Creek	Sec. 22	1145	X. L. T.	1 Rowe	1000 KB	6661 S, G	6661 S, G							
Union	Allen	VMSL 2833	26	Piper	1 Caryl	1020 GL	2006 D								
	Allen	VMSL 2979	8	Lauck	1 Merkle	1015 DF	2040 G								
	Allen	VMSL 3151	3	Adams	1 Brown	1093 DF	2060 G								
	Allen	VMSL 3742	6	Adams	1 Holycross	1043 DF	2102 G								
	Allen	VMSL 3749	7	Lauck	1 Giles	1077 DF	2080 G								
	Claibourne	VMSL 7008	30	Hadson	1 Randall	945 KB	2090 G								
	Darby	VMSL 15,310	4	Adams	1 Snyder	1042 DF	2229 G								
	Dover	VMSL 3956	37	Noble	1 Frey	962 DF	2118 G								
	Dover	VMSL 5135	19	Herman	1 Overly	960 DF	2191 D								
	Liberty	VMSL 12,400	5	Adams	1 Carreker	1078 DF	1990 G								
	Millcreek	VMSL 1394	34	Hampton	1 Putnam	977 DF	2272 G								
	Millcreek	VMSL 2989	15	Texas-Coastal	1 Parrott-Habbersett	930 GL	2345 G								
	Paris	VMSL 3353	31	Mott	1 Kleiber	996 KB	2152 G								
	Taylor	VMSL 3691	27	Capitol City	1 Kirby	973 GL	2085 D								
	Taylor	VMSL 4264	25	Branoco	1 Beeson	1025 KB	2093 G								
	Union	VMSL 7474	2	H. H. & R.	1 Zenith	1001 KB	2084 S		2570 S	2655 S	2831 S		3175 S	3350 S	3352
	Union	VMSL 7770	11	Lauck	1 Howard	996 GL	2018 G								
	York	VMSL 3470	20	Miller-Pieroni	1 Kirby & Potts	1011 DF	1980 G								
Van Wert	Jennings	Sec. 7S	23	Teeters	1 Miller	840 T	1768 D								
Vinton	Harrison	Sec. 6	302	Well Supervision	1 Brown	628 DF	3494 S	3494 S							
Warren	Clear Creek	Sec. 4	7	Continental	1 Sellers	927 KB	1452 S, G								
	Clear Creek	Sec. 20	10	Carter	1 Rainey-Whitaker	1048 KB	1635 S, G								
	Washington	VMSL 1523	8	Continental	1 Kittredge	945 KB	1525 S, G								
Wayne	Baughman	Sec. 9	1334	East Ohio	1 Weygandt	1068 KB	6094 G								
	Baughman	Sec. 25	1188	Ohio Fuel	1 Eberly	1031 DF	6315 S								
	Chippewa	Sec. 21	71	East Ohio	2 Steiner	960 KB	5934 S, G			6100 S	6220 S, G		6770 S	6904 S	6919
	East Union	Sec. 23	1153	Natol & Apache	1 Hackett	1124 DF	6097 S, G								
	Green	Sec. 19	1466	Waldron	1 Ramseyer	1139 KB	5828 G								
	Milton	Sec. 7	1133	Parker & Chapman	1 Ruffener	982 DF	5478 S, G								
	Milton	Sec. 19	1230	Parker & Chapman	3 Shafer	1055 DF	5550 G								
	Milton	Sec. 33	1326	Patten	1 Ramseyer	987 DF	5696 G								
	Plain	Sec. 23	1268	Oxford	1 Dodez	1095 T	5473 D								
	Wayne	Sec. 14	1419	Great Lakes	1 Drake	1151 KB	5702 S, G			5890 S	5994 S, G		6586 S	6728 S	6897

County	Township	Land subdivision	Permit number	Operator	Well number and lease name	Elevation at well head (ft above sea level)	Depth (ft)								Total depth of samples (ft)
							Top of Knox	Top of Rose Run	Top of Kerbel	Top of Conasauga	Top of Rome	Top of Eau Claire	Top of Mt. Simon	Top of Precambrian	
Williams	Bridgewater	Sec. 13	46	Columbia Gas	1 Cook	915 KB	3175 S, G					3740 S, G	4245 S, G	NR	4490
	Center	Sec. 25	37	Tamp	1 Wineland	779 KB	2498 G								
	Jefferson	Sec. 18	28	McClure	1 Kasper	889 DF	2874 G								
	Madison	Sec. 5	30	McClure	1 Barnhart	868 DF	3074 G								
	St. Joseph	Sec. 21	34	Beglinger	1 Kennerk	842 DF	2574 S, G					3178 S, G	3691 S	3922 S	4137
Wood	Bloom	Sec. 29	206	Continental	1-A Ebersole	726 KB	1767 G								
	Center	Sec. 4	237	Kin-Ark	1 Carter	672 KB	1944 S, G		2120 S			2250 S	2550 S	2825 D	2810
	Center	Sec. 31	229	Southern Triangle	1 Knauss	694 KB	1830 S		2035 S			2145 S	2500 S	2720 S	2765
	Center	Sec. 32	D-5	Portage River	1 Nelson	671 GL	1850 D								
	Grand Rapids	Sec. 30	248	Kin-Ark	1 Neilson	681 KB	2268 G								
	Henry	Sec. 6	215	Good & Good	1 Herringshaw	698 DF	2120 G								
	Henry	Sec. 11	259	Transamerican	1 Leathers	698 DF	1832 G								
	Henry	Sec. 36	287	Nahabedian & Fawcett	1 Stevens	736 DF	1823 D								
	Liberty	Sec. 12	D-6	Brailley	1 Killian	688 GL	1939 S		2207 S			2306 S	2620 S	2884 S	2927
	Liberty	Sec. 36	231	O'Neill	1 Peek	698 KB	1880 G								
	Middleton	Sec. 21W	239	J. R. S.	1 Asmus	670 KB	1916 S, G		2100 S			2270 S	2520 S	2805 S	2825
	Perrysburg	Sec. 22	D-8	Adrian	1 Grelley	645 GL	2052 D								
	Plain	Sec. 1	236	Kin-Ark	1 Smith	677 KB	1909 S, G		2050 S			2220 S	2480 S	2770 S	2785
	Plain	Sec. 13	D-9	Sun	1 Cross	676 GL	1802 D								
	Plain	Sec. 18	203	Grantley	1 Spitler	671 DF	2143 G								
	Portage	Sec. 5	D-10	Goodwell	1 Shinew	678 GL	1872 D								
	Washington	Sec. 12	247	Ashland	1 Freeworth	685 KB	2161 G								
	Washington	Sec. 32	211	Continental	1 Euler	668 KB	2177 G								
Wyandot	Antrim	Sec. 17	165	Floto-Brasel	1 Abnett	901 DF	2329 G								
	Crane	Sec. 19	182	Vance	1 Bowen	838 GL	1920 G								
	Crawford	Sec. 18	72	Ohio Oil	1 Heck	860 GL	1908 S		2113 S	2238 S	2335 S		2558 S	2800 S	2801
	Eden	Sec. 3	211	Minnesota-Ohio	1 Eyestone	942 KB	2396 S, G		2580 S	2680 S	2799 S, G		3055 S	3250 S	3260
	Jackson	Sec. 16	204	Brinkerhoff	1 Fox	942 DF	1996 D								
	Mifflin	Sec. 14	174	Texaco	1 Bowen	846 KB	1856 S, G		2195 S	2305 S	2386 S, G		2635 S	2860 S	2900
	Pitt	Sec. 21	186	Turner	1 Hull	892 DF	2025 G								
	Salem	Sec. 17	203	Brinkerhoff	1 Orians	853 GL	1898 D								
	Salem	Sec. 31	173	Comanche	1 Frey	868 DF	1902 S, G		2178 S	2274 S	2375 S, G		2685 S	2860 S	2870
	Tymochtee	Sec. 20	163	Continental	1 Eckert	813 DF	1964 G								

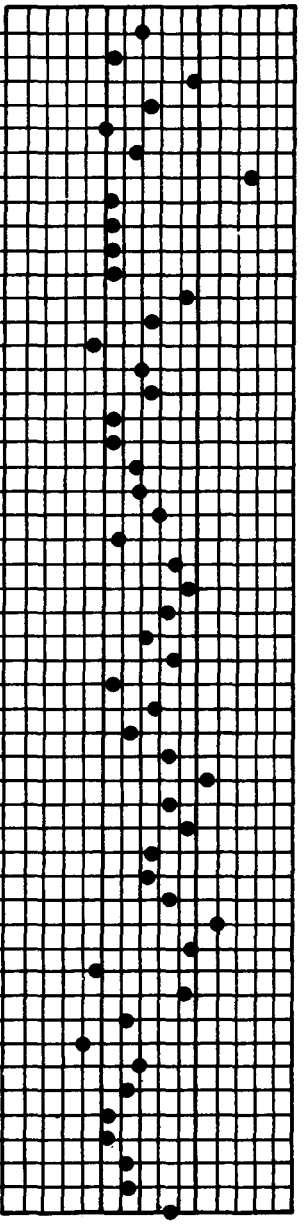
APPENDIX C - POROSITY AND PERMEABILITY DATA OF MT. SIMON SANDSTONE IN FOUR INDUSTRIAL DISPOSAL WELLS

ALLEN COUNTY
#1 Vistron Corporation

Depth (ft)	Permeability (millidarcys)
2794.5	<0.10
2795.5	<0.10
2796.5	<0.10
2797.5	1.7
2798.5	<0.10
2799.5	<0.10
2800.5	<0.10
2801.5	<0.10
2802.5	39.
2803.5	<0.10
2804.5	1.8
2805.5	1.3
2806.5	<0.10
2807.5	<0.10
2808.5	<0.10
2809.5	<0.10
2810.5	<0.10
2811.5	2.9
2812.5	<0.10
2813.5	25.
2814.5	115.
2815.5	45.
2816.5	112.
2817.5	<0.10
2818.5	<0.10
2819.5	42.
2820.5	204.
2821.5	152.
2822.5	161.
2823.5	157.
2824.5	80.
2825.5	165.
2826.5	126.
2827.5	52.
2828.5	47.
2829.5	<0.10
2830.5	2.0
2831.5	1.4
2832.5	<0.10
2833.5	35.
2834.5	160.
2835.5	157.
2836.5	30.
2842.5	61.
2847.5	183.
2852.5	4.1
2857.5	1.5
2862.5	178.
2867.5	64.
2872.5	85.
2877.5	4.3



Depth (ft)	Permeability (millidarcys)
2882.5	<0.10
2887.5	42.
2892.5	<0.10
2897.5	48.
2902.5	65.
2907.5	11.
2912.5	<0.10
2917.5	13.
2922.5	28.
2927.5	240.
2932.5	71.
2937.5	<0.10
2942.5	2.6
2947.5	21.
2952.5	19.
2957.5	264.
2962.5	120.
2967.5	277.
2972.5	45.
2977.5	114.
2982.5	9.7
2987.5	102.
2992.5	45.
2997.5	26.
3002.5	3.2
3007.5	27.
3012.5	75.
3017.5	565.
3022.5	102.
3027.5	89.
3032.5	15.
3037.5	27.
3042.5	144.
3047.5	29.
3052.5	40.
3057.5	4.4
3062.5	72.
3067.5	2.3
3072.5	26.
3078.5	770.
3083.5	18.
3088.5	670.
3093.5	865.
3098.5	19.
3103.5	93.
3108.5	46.
3113.5	82.
3118.5	142.
3123.5	1.3
3128.5	1.8



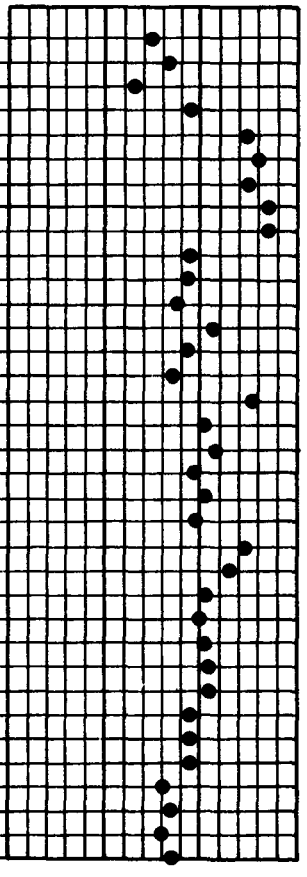
BUTLER COUNTY
#1 Armco Steel Co.

Depth (ft)	Permeability (millidarcys)
2975.5	<0.10
2976.5	<0.10
2977.5	0.28
2978.5	1.31
2979.5	4.92
2980.5	57.4
2981.5	1.87
2982.5	2.52
2983.5	0.83
2984.5	0.94
2985.5	1.10
2986.5	2.67
2987.5	7.82
2988.5	5.55
2989.5	0.12
2990.5	0.34
2991.5	0.72
2992.5	<0.10
2993.5	2.30
2994.5	0.91
2995.5	0.17
2996.5	0.76
2997.5	22.6
2998.5	0.18
2999.5	21.4
3000.5	0.15
3001.5	18.2
3002.5	52.2
3003.5	1.09
3004.5	16.7
3005.5	9.52
3006.5	60.0
3007.5	2.30
3008.5	11.8
3009.5	12.5
3010.5	8.12
3011.5	3.13
3012.5	5.26
3013.5	13.6
3014.5	0.70
3015.5	8.22
3016.5	1.57
3017.5	0.26
3018.5	<0.10
3019.5	<0.10
3020.5	20.0
3021.5	6.60
3022.5	2.00
3023.5	0.16
3024.5	23.5
3125.5	4.77
3126.5	1.30
3127.5	116.
3128.5	7.70
3129.5	370.
3130.5	1.25
3131.5	114.
3132.5	66.4
3133.5	2.06

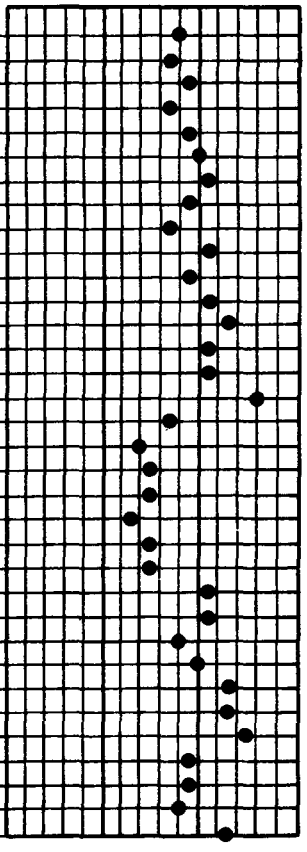
Depth (ft)	Permeability (millidarcys)
3134.5	30.0
3135.5	8.00
3136.5	0.47
3137.5	32.5
3138.5	4.17
3139.5	6.30
3140.5	3.34
3141.5	0.34
3142.5	2.37
3143.5	<0.10
3144.5	2.44
3145.5	2.78
3146.5	12.5
3147.5	0.59
3148.5	8.00
3150.5	7.28
3151.5	31.5
3152.5	0.52
3153.5	0.46
3154.5	1.11
3155.5	0.11
3156.5	0.11
3157.5	0.14
3158.5	<0.10
3159.5	0.10
3160.5	0.44
3161.5	0.51
3162.5	2.48
3163.5	0.12
3164.5	2.86
3165.5	29.4
3166.5	109.
3167.5	16.7
3168.5	54.4
3169.5	<0.10
3170.5	0.31
3171.5	<0.10
3172.5	0.52
3173.5	2.28
3174.5	<0.10
3175.5	<0.10
3176.5	0.28
3177.5	0.17
3178.5	<0.10
3179.5	<0.10
3180.5	<0.10
3181.5	0.28
3182.5	3.85
3183.5	8.58
3184.5	<0.10
3185.5	2.88
3186.5	17.5
3187.5	4.61
3188.5	<0.10
3189.5	<0.10
3190.5	<0.10
3191.5	0.38
3192.5	1.20

RICHLAND COUNTY
#1 Empire Reeves

Depth (ft)	Permeability (millidarcys)
4993.0 - 94.1	21.
4994.1 - 95.5	21.
4995.5 - 96.4	23.
4996.4 - 97.8	7.1
4997.8 - 98.9	<0.10
4998.9 - 00.5	<0.10
5000.5 - 01.4	<0.10
5001.4 - 02.9	<0.10
5002.9 - 03.8	<0.10
5003.8 - 05.5	5.6
5005.5 - 06.8	9.7
5006.8 - 07.8	8.2
5007.8 - 09.0	28.
5009.0 - 10.0	28.
5010.0 - 11.0	4.0
5011.0 - 12.0	<0.10
5012.0 - 13.3	2.4
5013.3 - 14.5	0.50
5014.5 - 15.5	1.9
5015.5 - 16.8	6.7
5016.8 - 18.0	3.3
5018.0 - 19.0	2.0
5019.0 - 20.0	0.70
5020.0 - 21.4	3.1
5021.4 - 22.9	3.6
5022.9 - 23.8	<0.10
5023.8 - 24.9	12.
5024.9 - 26.1	2.1
5026.1 - 27.5	4.3
5027.5 - 28.5	1.9
5028.5 - 29.2	1.2
5029.2 - 30.4	4.0
5030.4 - 31.4	4.8
5031.4 - 32.7	12.
5032.7 - 34.0	3.3

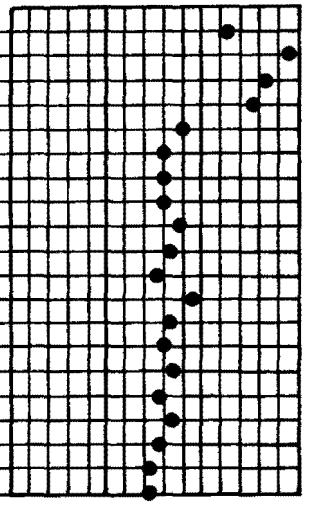


Depth (ft)	Permeability (millidarcys)
5034.0 - 35.1	3.6
5035.1 - 36.4	5.1
5036.4 - 37.4	9.7
5037.4 - 38.6	9.2
5038.6 - 39.8	1.0
5039.8 - 41.0	2.8
5041.0 - 42.0	2.8
5042.0 - 43.2	3.0
5043.2 - 44.1	12.
5044.1 - 45.0	0.20
5045.0 - 46.0	4.2
5046.0 - 47.2	<0.10
5047.2 - 48.5	<0.10
5048.5 - 49.8	1.4
5049.8 - 51.0	30.
5051.0 - 51.9	<0.10
5051.9 - 52.8	15.
5052.8 - 53.7	44.
5053.7 - 55.4	82.
5055.4 - 56.5	46.
5056.5 - 57.5	80.
5057.5 - 58.5	20.
5058.5 - 59.9	20.
5059.9 - 61.0	63.
5061.5 - 62.4	3.8
5062.4 - 63.0	7.1
5064.3 - 65.1	4.3
5065.1 - 66.5	<0.10
5066.5 - 67.1	<0.10
5068.0 - 69.0	<0.10
5070.0 - 71.3	14.
5072.0 - 72.5	5.8
5073.0 - 73.9	2.0
5084.0 - 85.0	32.

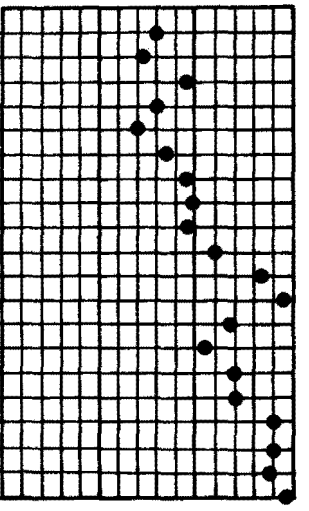


SCIOTO COUNTY
#1 USS Chemicals

Depth (ft)	Permeability (millidarcys)
5532.2	4.9
5533.0	-0-
5334.0	0.4
5535.0	11.
5535.8	27.
5537.2	94.
5538.0	71.
5539.0	21.
5540.0	18.
5541.0	65.
5542.0	60.
5543.0	6.7
5544.0	48.
5545.0	55.
5546.0	22.
5547.0	21.
5548.0	75.
5549.0	42.
5550.0	48.
5551.0	39.



Depth (ft)	Permeability (millidarcys)
5551.9	7.6
5553.0	43.
5554.0	2.7
5555.0	1.1
5556.0	14.
5557.0	5.1
5558.0	1.0
5558.9	0.6
5559.9	0.5
5560.7	0.1
5563.4	-0-
5564.3	-0-
5565.4	-0-
5566.6	3.9
5567.5	-0-
5568.4	0.1
5569.5	-0-
5570.4	-0-
5571.4	-0-
5572.4	-0-



ONTARIO
KENT
ESSEX
LAKE ERIE
MICHIGAN
CALHOUN
JACKSON
WASHTENAW
WAYNE
BRANCH
HILLSDALE
LENAWEE
MONROE
STEUBEN
WILLIAMS
FULTON
LUCAS
OTTAWA
SANDUSKY
ERIE
LORAIN
LAKE
ASHTABULA
CRAWFORD
GEAUGA
CUYAHOGA
TRUMBULL
DEKALB
DEFIANCE
HENRY
WOOD
HURON
MEDINA
SUMMIT
PORTAGE
MAHONING
ALLEN
PAULDING
PUTNAM
HANCOCK
SENECA
WYANDOT
CRAWFORD
RICHLAND
ASHLAND
WAYNE
STARK
COLUMBIANA
VAN WERT
ADAMS
ALLEN
HARDIN
MARION
MORROW
KNOX
HOLMES
CARROLL
MERCER
AUGLAIZE
LOGAN
UNION
DELAWARE
LICKING
TUSCARAWAS
JEFFERSON
JAY
SHELBY
CHAMPAIGN
COSHOCTON
HARRISON
RANDOLPH
DARKE
MIAMI
CLARK
MADISON
FRANKLIN
GUERNSEY
BELMONT
OHIO
WASHINGTON
MUSKINGUM
WAYNE
PREBLE
MONTGOMERY
GREENE
FAIRFIELD
PERRY
NOBLE
MONROE
MARSHALL
GREENE
UNION
FAYETTE
PICKAWAY
MORGAN
WETZEL
MARION
HOCKING
WASHINGTON
TYLER
FRANKLIN
BUTLER
WARREN
CLINTON
ROSS
ATHENS
PLEASANTS
HARRIS
DEARBORN
HAMILTON
HIGHLAND
VINTON
WOOD
DODDRIDGE
CLERMONT
PIKE
JACKSON
MEIGS
WIRT
LEWIS
OHIO
BOONE
KENTON
CAMPBELL
BROWN
SCIOTO
GILLIA
MASON
JACKSON
CALHOUN
GILMER
SWITZERLAND
ADAMS
ROANE
BRAXTON
GALLATIN
GRANT
PENDLETON
BRACKEN
MASON
GREENUP
LAWRENCE
CABELL
OWEN
ROBERTSON
LEWIS
FLEMING
CARTER
BOYD
HARRISON
SCOTT
NICHOLAS
FRANKLIN
BOURBON
BATH
ROWAN
ELLIOTT
LAWRENCE
WAYNE
ANDERSON
WOODFORD
FAYETTE
CLARK
MONTGOMERY
MENIFEE
MORGAN

KENTUCKY
WEST VIRGINIA
PENNSYLVANIA
MERCER
LAWRENCE
BEAVER
INDIANA

46 245+
34 231
49 190
239 285 236 290 237 275
D-1 190
147 230 117 186
28 216+
229 220 D-6 264
210 122 77 134
7 90 11 95 794 93
1143 60
1201 122
193 114
191 120
ERIE
CRAWFORD
ASHTABULA
LAKE
GEAUGA
CUYAHOGA
TRUMBULL
PORTAGE
MAHONING
128 100
25 35+
246 136+
71 134
1419 142
648 217+
COLUMBIANA
31 350
139 308
140 237
72 242
211 195
50 140(est.)
173 175
174 225
74 250(est.)
448 68
431 92
47 120
2550 115
8 65
12 137
1935
124+
1413 80+
141 297
71 205
18 307
33
9 150
144
1681 152
1388 75
270 125
1504
1468 174
22 145
242 191
113
2057 149
1826 108
1 272
269 58
1 135
2 175
3 160
2 300
14 131
2252 119
782 86
3 250
3 207
2 107
4 145(est.)
4 202
1 224
6 199
1278 175
4 325(est.)
5 38
2 120
150
2 140
220(est.)
7 204
9 185
1222 70
3 210
5 44 4 68
76 80
212 66
200
100
300
LAKE ERIE
PENNSYLVANIA
WEST VIRGINIA
KENTUCKY
INDIANA

PLATE 1
ISOPACH MAP OF THE MT. SIMON SANDSTONE

72 / 242 — Well permit number / Well location
Thickness (feet) of Mt. Simon Sandstone
— Isopach of Mt. Simon Sandstone, isopach interval 100 feet

SCALE 1:1,000,000
0 10 20 30 40 miles

ONTARIO
KENT
ESSEX
LAKE ERIE
CALHOUN
JACKSON
WASHTENAW
WAYNE
BRANCH
HILLSDALE
LENAWEE
MONROE
MICHIGAN
ERIE
STEUBEN
WILLIAMS
FULTON
LUCAS
OTTAWA
LAKE
ASHTABULA
CRAWFORD
DEKALB
DEFIANCE
HENRY
SANDUSKY
ERIE
GEAUGA
CUYAHOGA
TRUMBULL
PENNSYLVANIA
MERCER
LAWRENCE
ALLEN
PAULDING
PUTNAM
HANCOCK
SENECA
HURON
LORAIN
MEDINA
SUMMIT
PORTAGE
MAHONING
VAN WERT
WYANDOT
CRAWFORD
RICHLAND
ASHLAND
WAYNE
STARK
COLUMBIANA
INDIANA
ADAMS
ALLEN
HARDIN
MARION
MORROW
HOLMES
CARROLL
BEAVER
MERCER
AUGLAIZE
LOGAN
KNOX
TUSCARAWAS
JEFFERSON
JAY
SHELBY
UNION
DELAWARE
COSHOCTON
HARRISON
RANDOLPH
DARKE
CHAMPAIGN
LICKING
GUERNSEY
BELMONT
OHIO
WASHINGTON
MIAMI
CLARK
MADISON
FRANKLIN
MUSKINGUM
MARSHALL
GREENE
WAYNE
PREBLE
MONTGOMERY
FAIRFIELD
PERRY
NOBLE
MONROE
UNION
GREENE
FAYETTE
PICKAWAY
MORGAN
WETZEL
MARION
FRANKLIN
BUTLER
WARREN
CLINTON
HOCKING
WASHINGTON
TYLER
ROSS
ATHENS
PLEASANTS
HARRIS
VINTON
WOOD
DODDRIDGE
DEARBORN
HAMILTON
HIGHLAND
PIKE
JACKSON
MEIGS
WIRT
LEWIS
CLERMONT
OHIO
BOONE
KENTON
CAMPBELL
BROWN
ADAMS
SCIOTO
GALLIA
MASON
JACKSON
CALHOUN
GILMER
WEST VIRGINIA
SWITZERLAND
GALLATIN
GRANT
PENDLETON
BRACKEN
MASON
LEWIS
GREENUP
LAWRENCE
ROANE
BRAXTON
OWEN
ROBERTSON
FLEMING
CARTER
BOYD
CABELL
KENTUCKY
HARRISON
SCOTT
NICHOLAS
FRANKLIN
BOURBON
BATH
ROWAN
ELLIOTT
LAWRENCE
WAYNE
ANDERSON
WOODFORD
FAYETTE
CLARK
MONTGOMERY
MENIFEE
MORGAN

46 505
34 513
28 562
49 330
239 250 236 260 237 300 229 355 D-6 314 WOOD
31 300
139 305
152 340
140 358
74 370
67 414
79 415
141 488
71 495
18 430
13 498
12 538
1 504
3 540
2 510
3 510
4 552
3 551

400
300
500

PLATE 2
ISOPACH MAP OF THE EAU CLAIRE FORMATION

3 / 551 — Well permit number / Well location / Thickness (feet) of Eau Claire Formation
— Isopach of Eau Claire Formation, isopach interval 100 feet
●●● Eau Claire-Rome cutoff

SCALE 1:1,000,000
0 10 20 30 40 miles

ONTARIO
KENT
ESSEX
LAKE ERIE
MICHIGAN
CALHOUN
JACKSON
WASHTENAW
WAYNE
BRANCH
HILLSDALE
LENAWEE
MONROE
STEUBEN
WILLIAMS
FULTON
LUCAS
DEKALB
DEFIANCE
HENRY
WOOD
ALLEN
PAULDING
PUTNAM
HANCOCK
OTTAWA
SANDUSKY
ERIE
HURON
SENECA
WYANDOT
CRAWFORD
RICHLAND
ASHLAND
MARION
MORROW
KNOX
UNION
DELAWARE
LOGAN
SHELBY
VAN WERT
ALLEN
HARDIN
AUGLAIZE
MERCER
ADAMS
JAY
RANDOLPH
DARKE
CHAMPAIGN
MIAMI
CLARK
MADISON
FRANKLIN
WAYNE
PREBLE
MONTGOMERY
GREENE
UNION
FRANKLIN
BUTLER
WARREN
CLINTON
FAYETTE
PICKAWAY
DEARBORN
HAMILTON
CLERMONT
HIGHLAND
BROWN
PIKE
ROSS
HOCKING
VINTON
JACKSON
ADAMS
SCIOTO
OHIO
BOONE
KENTON
CAMPBELL
SWITZERLAND
GALLATIN
GRANT
PENDLETON
BRACKEN
OWEN
ROBERTSON
MASON
LEWIS
GREENUP
CARTER
BOYD
CABELL
WAYNE
LAWRENCE
ELLIOTT
ROWAN
BATH
MENIFEE
MORGAN
FLEMING
NICHOLAS
BOURBON
HARRISON
SCOTT
FRANKLIN
ANDERSON
WOODFORD
FAYETTE
CLARK
MONTGOMERY
ATHENS
MEIGS
GALLIA
MASON
LAWRENCE
LORAIN
CUYAHOGA
LAKE
GEAUGA
ASHTABULA
ERIE
CRAWFORD
MEDINA
SUMMIT
PORTAGE
TRUMBULL
MAHONING
MERCER
LAWRENCE
WAYNE
STARK
COLUMBIANA
BEAVER
HOLMES
TUSCARAWAS
CARROLL
JEFFERSON
HARRISON
COSHOCTON
GUERNSEY
BELMONT
OHIO
WASHINGTON
MUSKINGUM
NOBLE
MONROE
MARSHALL
GREENE
PERRY
MORGAN
WASHINGTON
WOOD
WETZEL
TYLER
PLEASANTS
MARION
HARRIS
DODDRIDGE
WIRT
LEWIS
GILMER
CALHOUN
JACKSON
ROANE
BRAXTON
MASON
PENNSYLVANIA
WEST VIRGINIA
KENTUCKY

300 5
400 GEAUGA
500 TRUMBULL
600 PORTAGE
700 MAHONING
75 50 25 5
300 200 100
400 300 200 100
500 400 300 200 100
600 500 400 300 200 100
700 600 500 400 300 200 100
25 5

191 286 ASHTABULA
193 298
D-1 217
147 222 117 219
210 205 77 213
7 252 11 274 794 278
1143 498 1201 487
72 223
173 310
174 249
211 256
50 270
25 260
246 335
71 550
1419 592
648 715
448 359
431 353
47 345
1283 710(est.)
2550 300
8 325 12 325 1935 313
33 355
1413 404
9 315 1681 343 1388 413
22 332
242 337
270 318
1604 343 2057 355
1468 367
2053 51
1826 431
1 310 269 330
2 344
14 354
2252 349
782 565
3 350
2 205
4 347
4 190
1 213
2 192
7 221 2 205 1 210 7 254
5 196
9 353
6 234
1222 433
1278 625
212 295
4 288 4 278
5
76 412

PLATE 3
ISOPACH MAP OF THE ROME FORMATION

1222 433 Well permit number, well location, thickness (feet) of Rome Formation
— Isopach of Rome Formation, isopach interval 100 feet
– – Sandstone (percent) in Rome Formation
●●● Eau Claire-Rome cutoff
····· Approximate limit of Rome sandstone

SCALE 1:1,000,000
0 10 20 30 40 miles

ONTARIO
KENT
ESSEX
LAKE ERIE
MICHIGAN
CALHOUN
JACKSON
WASHTENAW
WAYNE
BRANCH
HILLSDALE
LENAWEE
MONROE
ERIE
STEUBEN
WILLIAMS
FULTON
LUCAS
OTTAWA
LAKE
ASHTABULA
CRAWFORD
GEAUGA
DEKALB
DEFIANCE
HENRY
WOOD
SANDUSKY
ERIE
CUYAHOGA
TRUMBULL
LORAIN
ALLEN
PAULDING
PUTNAM
HANCOCK
SENECA
HURON
MEDINA
SUMMIT
PORTAGE
MAHONING
MERCER
LAWRENCE
VAN WERT
WYANDOT
CRAWFORD
RICHLAND
ASHLAND
WAYNE
STARK
COLUMBIANA
INDIANA
ADAMS
ALLEN
HARDIN
MARION
MORROW
HOLMES
CARROLL
BEAVER
JAY
MERCER
AUGLAIZE
LOGAN
SHELBY
UNION
KNOX
TUSCARAWAS
JEFFERSON
HARRISON
COSHOCTON
DELAWARE
RANDOLPH
DARKE
CHAMPAIGN
MIAMI
LICKING
GUERNSEY
BELMONT
OHIO
WASHINGTON
CLARK
MADISON
FRANKLIN
MUSKINGUM
MARSHALL
GREENE
WAYNE
PREBLE
MONTGOMERY
FAIRFIELD
PERRY
NOBLE
MONROE
GREENE
MORGAN
WETZEL
UNION
FAYETTE
PICKAWAY
HOCKING
WASHINGTON
TYLER
MARION
FRANKLIN
BUTLER
WARREN
CLINTON
ROSS
ATHENS
PLEASANTS
HARRIS
DODDRIDGE
WOOD
DEARBORN
HAMILTON
CLERMONT
HIGHLAND
PIKE
MEIGS
WIRT
LEWIS
JACKSON
GILMER
OHIO
BOONE
KENTON
CAMPBELL
BROWN
ADAMS
SCIOTO
GALLIA
MASON
CALHOUN
SWITZERLAND
GALLATIN
GRANT
PENDLETON
BRACKEN
ROANE
BRAXTON
OWEN
ROBERTSON
MASON
LEWIS
GREENUP
LAWRENCE
CABELL
KENTUCKY
WEST VIRGINIA
HARRISON
FLEMING
CARTER
BOYD
SCOTT
NICHOLAS
FRANKLIN
BOURBON
BATH
ROWAN
ELLIOTT
WAYNE
ANDERSON
WOODFORD
FAYETTE
CLARK
MONTGOMERY
MENIFEE
MORGAN
LAWRENCE

A
B
C

100
150
50
200
250
300
350
400
450

PLATE 4
ISOPACH MAP OF THE CONASAUGA FORMATION

76 / 168 — Well permit number / Well location / Thickness (feet) of Conasauga Formation
— Isopach of Conasauga Formation, isopach interval 50 feet
●●● Eau Claire-Rome cutoff
A Partly glauconitic siltstone and very fine-grained sandstone
B Interbedded dolomite and southward-thinning sandstone
C Shale and interbedded glauconitic limestone, dolomite, siltstone, and very fine-grained sandstone

SCALE 1:1,000,000
0 10 20 30 40 miles

PLATE 5
ISOPACH MAP OF THE KERBEL FORMATION

90 / 110 — Well permit number / Well location / Thickness (feet) of Kerbel Formation

— Isopach of Kerbel Formation, isopach interval 25 feet

42 — Net sandstone thickness of the Conasauga Formation

SCALE 1:1,000,000

0 10 20 30 40 miles

A

WOOD COUNTY
KIN-ARK #1 SMITH

SANDUSKY COUNTY
MAGUIRE #1 KERBEL

ERIE COUNTY
SUN OIL #1 KRYSIK-WAKEFIELD

MEDINA COUNTY
WISER OIL #1 WARNER

ASHTABULA COUNTY
EAST OHIO GAS #1 BRAYMAN

ELGIN COUNTY (OFFSHORE) ONTARIO
CONSUMERS & PAN AMERICAN #13039

A'

KNOX DOLOMITE
KERBEL FORMATION
CONASAUGA FORMATION
Rome dolomite tongue
cutoff
ROME FORMATION
EAU CLAIRE FORMATION
MT. SIMON SANDSTONE
PRECAMBRIAN
datum
ROME FORMATION
CONASAUGA FORMATION
MT. SIMON SANDSTONE
Rose Run sandstone
Gamma ray
Neutron

18 miles | 49 miles | 33 miles | 70 miles | 50 miles

B

ALLEN COUNTY
VISTRON #1 SOHIO

CRAWFORD COUNTY
HAWKINS #1 LEONHARDT

MORROW COUNTY
PAN AMERICAN #1 WINDBIGLER

FRANKLIN COUNTY
MARBLE CLIFF #1 MARBLE CLIFF

LICKING COUNTY
LAKE SHORE #1 CROWLEY

GUERNSEY COUNTY
LAKE SHORE #1 MARSHALL

B'

KNOX DOLOMITE
base of "B zone"
KERBEL FORMATION
CONASAUGA FORMATION
Rome dolomite tongue
cutoff
ROME FORMATION
EAU CLAIRE FORMATION
MT. SIMON SANDSTONE
PRECAMBRIAN
KNOX DOLOMITE
datum
KERBEL FORMATION
CONASAUGA FORMATION
Rome sandstone
ROME FORMATION
MT. SIMON SANDSTONE
Rose Run sandstone
Gamma ray
Neutron
Resistivity
Conductivity

65 miles | 19 miles | 52 miles | 40 miles | 33 miles

C

FAYETTE COUNTY
KEWANEE #1 HOPKINS

PICKAWAY COUNTY
MCMAHON-BULLINGTON #1 CROMAN

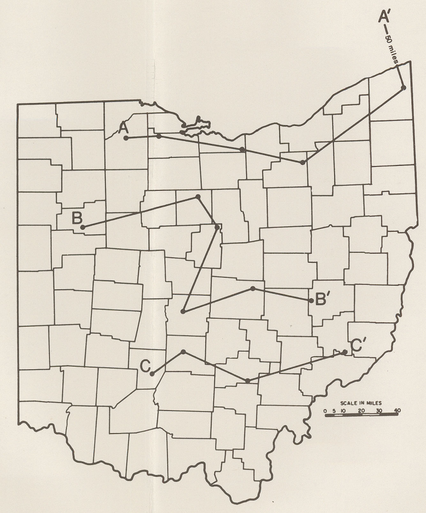
HOCKING COUNTY
DUNIGAN #1 HOCKMAN

NOBLE COUNTY
AMERADA #1 ULLMAN

C'

KNOX DOLOMITE
KERBEL FORMATION
CONASAUGA FORMATION
ROME FORMATION
MT. SIMON SANDSTONE
PRECAMBRIAN
Rose Run sandstone
base of "B zone"
datum
Gamma ray
Neutron

20 miles | 41 miles | 54 miles



Locations of cross sections

PLATE 6
LOG CROSS SECTIONS

- Dolomite
- Limestone
- Sandstone
- Shale
- Siltstone
- Precambrian (undifferentiated)
- Sandy
- Silty
- Argillaceous
- Oolite or pellet
- Glauconite
- Chert
- Oolitic or pelletal chert

ONTARIO
LAKE ERIE
MICHIGAN
INDIANA
OHIO
PENNSYLVANIA
WEST VIRGINIA
KENTUCKY

CALHOUN, JACKSON, WASHTENAW, WAYNE, KENT, ESSEX, BRANCH, HILLSDALE, LENAWEE, MONROE, ERIE, STEUBEN, WILLIAMS, FULTON, LUCAS, OTTAWA, LAKE, ASHTABULA, CRAWFORD, DEKALB, DEFIANCE, HENRY, WOOD, SANDUSKY, ERIE, LORAIN, CUYAHOGA, GEAUGA, TRUMBULL, MERCER, ALLEN, PAULDING, PUTNAM, HANCOCK, SENECA, HURON, MEDINA, SUMMIT, PORTAGE, MAHONING, LAWRENCE, VAN WERT, WYANDOT, CRAWFORD, RICHLAND, ASHLAND, WAYNE, STARK, COLUMBIANA, BEAVER, ADAMS, ALLEN, HARDIN, MARION, MORROW, MERCER, AUGLAIZE, HOLMES, CARROLL, JAY, LOGAN, SHELBY, UNION, DELAWARE, KNOX, COSHOCTON, TUSCARAWAS, JEFFERSON, HARRISON, RANDOLPH, DARKE, CHAMPAIGN, MIAMI, LICKING, GUERNSEY, BELMONT, OHIO, WASHINGTON, WAYNE, CLARK, MADISON, FRANKLIN, MUSKINGUM, MARSHALL, GREENE, PREBLE, MONTGOMERY, GREENE, FAIRFIELD, PERRY, NOBLE, MONROE, UNION, FAYETTE, PICKAWAY, MORGAN, WETZEL, MARION, FRANKLIN, BUTLER, WARREN, CLINTON, ROSS, HOCKING, WASHINGTON, TYLER, PLEASANTS, HARRIS, DEARBORN, HAMILTON, HIGHLAND, VINTON, ATHENS, WOOD, DODDRIDGE, PIKE, MEIGS, WIRT, LEWIS, OHIO, BOONE, KENTON, CAMPBELL, CLERMONT, BROWN, JACKSON, GILMER, SWITZERLAND, ADAMS, SCIOTO, GALLIA, MASON, CALHOUN, GALLATIN, GRANT, PENDLETON, BRACKEN, ROANE, BRAXTON, OWEN, ROBERTSON, MASON, LEWIS, GREENUP, LAWRENCE, CABELL, FLEMING, HARRISON, SCOTT, NICHOLAS, CARTER, BOYD, FRANKLIN, BOURBON, BATH, ROWAN, ELLIOTT, WAYNE, ANDERSON, WOODFORD, FAYETTE, CLARK, MONTGOMERY, MENIFEE, MORGAN, LAWRENCE

SUBCROP OF ROSE RUN SANDSTONE AT KNOX UNCONFORMITY

100, 350, 600

PLATE 7
ISOPACH MAP OF POST-ROSE RUN KNOX DOLOMITE

174 Well permit number
• Well location
330 Thickness (feet) of section between Rose Run sandstone and Knox unconformity

— Isopach of unit, omitted along Ohio-West Virginia boundary, isopach interval 50 feet

250 Test in which Rose Run sandstone is apparently more than 200 feet thick (thickness indicated)

SCALE 1:1,000,000
0 10 20 30 40 miles

PLATE 8
ISOPACH MAP OF THE KNOX DOLOMITE

76 Well permit number
• 898 Well location
Thickness (feet) of Knox Dolomite
— Isopach of Knox Dolomite, isopach interval 100 feet

SCALE 1:1,000,000
0 10 20 30 40 miles

ONTARIO
KENT
ESSEX
LAKE ERIE
MICHIGAN
CALHOUN
JACKSON
WASHTENAW
WAYNE
BRANCH
HILLSDALE
LENAWEE
MONROE
STEUBEN
DEKALB
ALLEN
ADAMS
JAY
RANDOLPH
WAYNE
UNION
FRANKLIN
DEARBORN
OHIO
SWITZERLAND
GALLATIN
OWEN
SCOTT
BOURBON
FAYETTE
CLARK
WOODFORD
ANDERSON
WILLIAMS
FULTON
LUCAS
OTTAWA
SANDUSKY
ERIE
LORAIN
CUYAHOGA
LAKE
GEAUGA
ASHTABULA
CRAWFORD
ERIE
MERCER
LAWRENCE
BEAVER
COLUMBIANA
MAHONING
TRUMBULL
PORTAGE
SUMMIT
MEDINA
HENRY
DEFIANCE
PAULDING
PUTNAM
HANCOCK
WOOD
SENECA
HURON
VAN WERT
ALLEN
WYANDOT
CRAWFORD
RICHLAND
ASHLAND
WAYNE
STARK
HARDIN
MARION
MORROW
KNOX
HOLMES
CARROLL
TUSCARAWAS
JEFFERSON
MERCER
AUGLAIZE
LOGAN
SHELBY
UNION
DELAWARE
COSHOCTON
HARRISON
DARKE
CHAMPAIGN
LICKING
GUERNSEY
BELMONT
OHIO
MIAMI
CLARK
MADISON
FRANKLIN
MUSKINGUM
MARSHALL
GREENE
PREBLE
MONTGOMERY
GREENE
FAIRFIELD
PERRY
NOBLE
MONROE
PICKAWAY
FAYETTE
MORGAN
WETZEL
MARION
BUTLER
WARREN
CLINTON
ROSS
HOCKING
WASHINGTON
TYLER
HIGHLAND
VINTON
ATHENS
PLEASANTS
HARRIS
DODDRIDGE
CLERMONT
PIKE
JACKSON
MEIGS
WOOD
WIRT
LEWIS
BROWN
ADAMS
SCIOTO
GALLIA
MASON
JACKSON
CALHOUN
GILMER
BOONE
KENTON
CAMPBELL
GRANT
PENDLETON
BRACKEN
MASON
ROBERTSON
LEWIS
GREENUP
LAWRENCE
CARTER
BOYD
CABELL
WAYNE
ROANE
BRAXTON
FLEMING
NICHOLAS
BATH
ROWAN
ELLIOTT
LAWRENCE
MENIFEE
MORGAN
MONTGOMERY
KENTUCKY
WEST VIRGINIA
PENNSYLVANIA

ONTARIO
KENT
ESSEX
LAKE ERIE
MICHIGAN
CALHOUN
JACKSON
WASHTENAW
WAYNE
BRANCH
HILLSDALE
LENAWEE
MONROE
ERIE
KNOX DOLOMITE ABSENT
STEUBEN
WILLIAMS
FULTON
LUCAS
OTTAWA
LAKE
ASHTABULA
CRAWFORD
GEAUGA
DEKALB
DEFIANCE
HENRY
WOOD
SANDUSKY
ERIE
CUYAHOGA
LORAIN
TRUMBULL
ALLEN
PAULDING
PUTNAM
HANCOCK
SENECA
HURON
MEDINA
SUMMIT
PORTAGE
MAHONING
MERCER
LAWRENCE
VAN WERT
ALLEN
WYANDOT
CRAWFORD
RICHLAND
ASHLAND
WAYNE
STARK
COLUMBIANA
BEAVER
ADAMS
HARDIN
MARION
MORROW
HOLMES
CARROLL
MERGER
AUGLAIZE
JAY
LOGAN
KNOX
TUSCARAWAS
JEFFERSON
SHELBY
UNION
DELAWARE
COSHOCTON
HARRISON
RANDOLPH
DARKE
CHAMPAIGN
LICKING
GUERNSEY
OHIO
WASHINGTON
MIAMI
CLARK
MADISON
FRANKLIN
MUSKINGUM
BELMONT
MARSHALL
GREENE
WAYNE
PREBLE
MONTGOMERY
GREENE
FAIRFIELD
PERRY
NOBLE
MONROE
UNION
FAYETTE
PICKAWAY
MORGAN
WETZEL
HOCKING
TYLER
MARION
FRANKLIN
BUTLER
WARREN
CLINTON
ROSS
VINTON
ATHENS
WASHINGTON
PLEASANTS
HARRIS
DEARBORN
HAMILTON
HIGHLAND
PIKE
MEIGS
WOOD
DODDRIDGE
CLERMONT
JACKSON
WIRT
LEWIS
OHIO
BOONE
KENTON
CAMPBELL
BROWN
ADAMS
SCIOTO
GALLIA
MASON
JACKSON
CALHOUN
GILMER
SWITZERLAND
GALLATIN
GRANT
PENDLETON
BRACKEN
MASON
LEWIS
GREENUP
LAWRENCE
ROANE
BRAXTON
OWEN
ROBERTSON
FLEMING
CABELL
HARRISON
CARTER
BOYD
SCOTT
NICHOLAS
FRANKLIN
BOURBON
BATH
ROWAN
ELLIOTT
LAWRENCE
WAYNE
ANDERSON
WOODFORD
FAYETTE
CLARK
MONTGOMERY
MENIFEE
MORGAN
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
-9000
-200
-1000
-2000
-3000

PENNSYLVANIA
WEST VIRGINIA
KENTUCKY
INDIANA

PLATE 9

STRUCTURE MAP ON THE KNOX DOLOMITE

- Well location
- Structure on Knox Dolomite, contour interval 200 feet except in extreme eastern part of state
- Cryptovolcanic area (Bucher, 1933)

SCALE 1:1,000,000

0 10 20 30 40 miles