GEOLOGICAL REPORT.

The district surveyed in detail, during the year 1874, embraces the counties of Jefferson, Scott, Jackson, Brown and Morgan.

Professors John Collett and W. W. Borden, have been engaged for a part of the year on the field work, and Dr. G. M. Levette has been engaged in the office and chemical laboratory, preparing maps and assisting in making chemical analyses of coal, iron ore, clay and such other minerals as were likely to prove of commercial value to the State. My personal attention has been given to the examination of Jackson county, in addition to the general supervision of the field and office work.

Mr. Borden continued the line of survey, of the previous year, from Clarke into Scott and Jefferson counties. He followed the Clinton, Niagara, Corniferous and New Albany black shale from the western exposure of the beds along the eastern rise of the strata until they were successively replaced by the Hudson River or Cincinnati group of the Lower Silurian period. After passing east of Madison, in Jefferson county, the Cincinnati beds continue in great force to the State line and beyond into the State of Ohio.

In a paper which I read at the Indianapolis meeting of the American Association for the advancement of Science in 1871, attention was called to the fact that the Silurian beds, so well displayed at Cincinnati, were not elevated by a local axis of disturbance, but, that the rocks of this famous district simply partook of the general continental

fluctuations of level. Neither in Indiana nor in the adjoining State of Ohio, especially in the region around Cincinnati, have I been able to discover any evidence of a local disturbance or axis of uplift. On the contrary the strata are almost horizontal for many miles, in a westerly course, from Cincinnati. Strata equivalent to these which occupy the tops of the hills at Cincinnati, and 430 feet above the Ohio river, are seen in Jefferson county, Indiana, at about the same level above the stream.

It is a reasonable interpretation of the geological history of the territory embraced between the eastern slope of the Appalachians and the Silurian of Arkansas, and the States to the northward, that the Silurian continent of North America was represented by a large body of Archean land in the northern regions with the silurian resting upon it in the regions of the lakes. From thence three great belts or peninsulas extended in a south-westerly direction. The eastern belt lay in the regions of the Appalachians and extended south to Georgia and Alabama. The middle formed the Cincinnati belt but did not reach quite so far south. The third and western belt extended into Arkansas. These three parallel prolongations were surrounded by and enclosed deep seas, and their summits have for the most part, ever remained above the water since they were first elevated. The superior strata were now formed by the deposition of mud and sand in the surrounding waters.

At this time there was a large inland sea filling up between Lake Huron and Lake Michigan. This condition of things continued to the close of the sub-carboniferous era when the seas between the Silurian belts and the inland sea of Michigan were nearly filled up and great marshy basins were formed, which together with favorable climatic changes, furnished the conditions suitable for the accumulation of vegetation that served to make the coal seams. During the coal making era the continent commenced to sink, but this movement was interrupted by long periods of rest. During the periods of rest, vegetation accumulated for coal seams and during the periods of depression the influx of

the ocean covered them with mud and sand, which as shale, limestone and sandstone filled up the spaces between the various seams of coal.

At the close of the Carboniferous era, the continent was again subjected to elevating forces and the surrounding seas filled up with superior strata. The coal measures included within the basins formed by the Silurian continent as above defined, have remained above the sea ever since.

The Appalachian uplift, which distorted and folded the coal strata of that region in such a remarkable manner, is of subsequent date and its effects did not extend to the measures in western Pennsylvania, Ohio and Indiana.

From Lake Superior on the north and running southwest to Arkansas along the western Silurian belt, we find a rich mineral district with a wonderful uniformity in the character of its minerals over the whole extent. Copper ores, galena, specular and magnetic iron ores, nickle ore and Tenantite (silver ore). The latter, especially, seen in Arkansas. No less striking in similarity are the minerals seen along the eastern parallel belt. This coincidence seems also to indicate, that the seat of greatest force, operating to produce the elevations and depressions of this part of the continent, lay in the direction of these two mineral belts.

In Indiana, the geological changes that have taken place since the deposition of the coal strata, belong exclusively to the Quaternary period, and are due to the grinding and disintegrating power of glaciers moving over the surface, fluvial and lacustrine waters together with the ever corroding atmosphere. Between the coal measures then and the Quaternary there is not to be found in the State any portion of that immense depth of strata which constitutes the Mesozoic and Tertiary ages. The Glacial, Champlain and Loess deposits are resting immediately upon Paleozoic rocks.

It matters not, so far as its effects are concerned, whether the Glacial era was the result of a change in the precession of the equinoxes or by an immense elevation of the northern regions of the continent; a study of the drift will lead to

the conviction that glaciation extended over the northern part of the continent. The direction of the main glaciers was southwesterly but minor courses made by tributaries which served to swell the main glaciers were as varied as the mountain and valley courses which marked the topography of the period. It is also highly probable as suggested by Newberry that the glaciers gave direction to the present river drainage.

The Champlain or terrace formations composed of gravel, sand and clay, mostly the debris of crystalline rocks, form the shores of the retreating and diminishing glaciers. After the melting of the glaciers there was left upon the Champlain shores, strips of fresh water ponds or lakes in which sediment accumulated, that constitutes the Loess or Bluff formation. The Loess is usually rich in fossil shells belonging to the fresh water species, so that there can be no doubt of the source of its origin. The fossil mollusca of the Loess belong to the aquatic, amphibious and pulmonifera tribes, all of which have living representatives in this State with one single exception. *Helicina occulta*, Say, which has not been found, I believe, north of the Ohio river, but is abundant in the southern states and I have found it in Arkansas and along the southern border of Kentucky. They are such species as live in marshy places and in stagnant water. The following list comprises the fossils found in the Loess in Posey county, Indiana, on the Cut-off river (an arm of the Wabash) bluffs, near the town of New Harmony: *Macrocyclis concava*, Say; *Zonites indentatus*, Say; *Patula perspectiva*, Say; *Helix lineata*, Say; *H. labrynthica*, Say; *H. hirsuta*, Say; *H. monodon*, Rack.; *H. monodon*, var. *fraterna*, Say; *Punctum minutissimum*, Lea; *Succinea elongata*, Say; *Pupa armifera*, Say; *Helicina occulta*, Say; *Cyclostoma lapidaria*, Say; and one or two other species of aquatic, univalve mollusca, not identified.

The Loess is always found near the present main water courses and capping the highest river bluffs. In Posey county it is 165 feet above the Wabash river and at

Merom, in Sullivan county, the elevation is 170 feet in Perry county, on the Ohio river, it is about 200 feet.

The Champlain deposit, which underlies the Loess, has never, so far as my knowledge goes, furnished fossils of any kind, which is evidence that it is not of fluviatile origin, but the result of currents of water that flowed from the melting glaciers with such force as to preclude the existence of fauna.

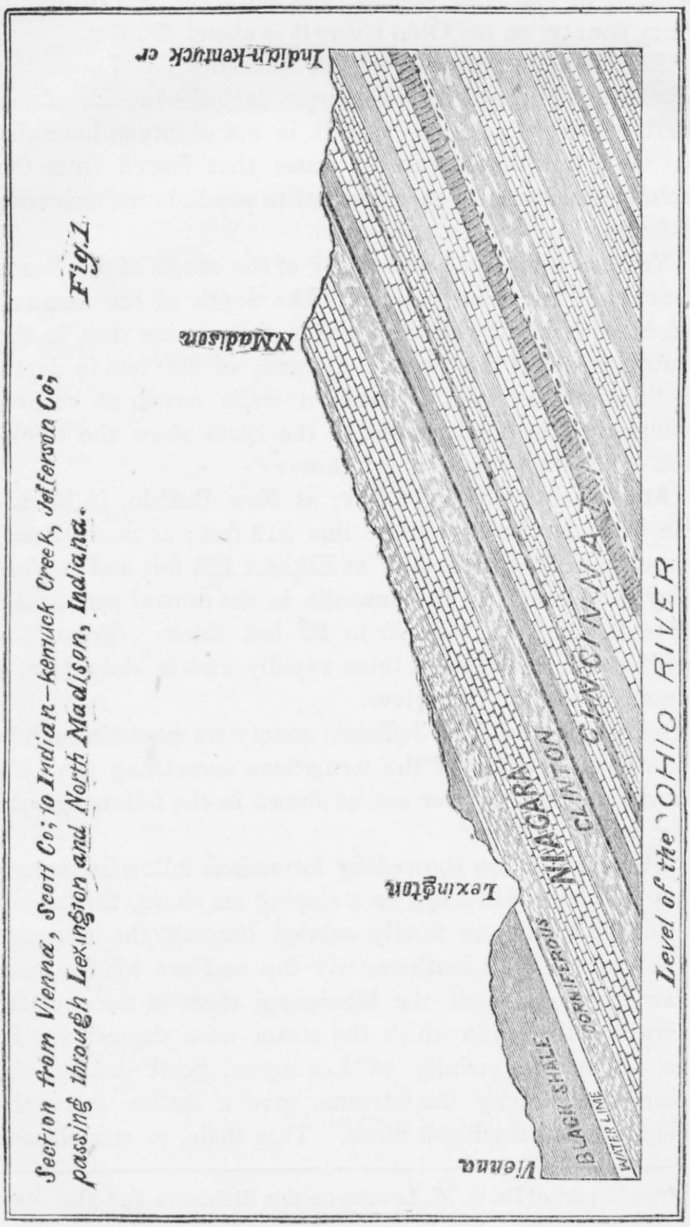
No State affords a better study of the effects of the North American drift than Indiana. The depth of the accumulated material of this era ranges from a few feet in the southern part of the State to upwards of 200 feet in depth in the northern part. Artesian wells bored at various points over the northern end of the State show the thickness of the drift material as follows:

At Michigan City* 172 feet; at New Buffalo, in Michigan near the Indiana State line 212 feet; at South Bend, three wells, 92 to 103 feet; at Elkhart 125 feet and at Fort Wayne 88 feet. At Indianapolis, in the central part of the State, the drift is from 80 to 90 feet thick. From this point south the deposit thins rapidly and is only locally present along the Ohio river.

As we go west from Jefferson county we meet alternately the cropping edges of the formations succeeding the Cincinnati or Hudson river era, as shown in the following cut: Fig. 1.

The strata of the succeeding formations follow as though they had been laid down on a sloping sea shore, thickening to the west and are finally carried beneath the drainage level by the slight southwesterly dip and are hidden from view until we reach the Mississippi river on the opposite margin of the sea in which the strata were deposited. In the immediate vicinity of Lexington, Scott county, the escarpments along the streams give a section from the Niagara up to the Black Shale. This shale, so conspicuous

*See Report of Dr. G. M. Levette on this district in Ind. Geo. Rep. —1873, page 430.



Section from Vienna, Scott Co; to Indiana-kentuck Creek, Jefferson Co; passing through Lexington and North Madison, Indiana. Fig. 1

at New Albany just below the falls of the Ohio, has been variously classed as the equivalent of the Genesee and Portage shale of the New York Reports. Dr. Newberry, in the Ohio Rep. refers it to the Portage and not to the Genesee as misquoted in my last report.

Previous to this year we have not been able to find any fossils in the Black Shale except some small species of *Lingula* and *Discina* which are so closely allied to carboniferous species that it was not considered prudent to rely upon them for the identification of the age of the strata. At Rockford, Jackson county, where these *Brachiopods* are found in the Black Shale in great abuudance, we find it overlaid by the hard greenish marl-shale containing the *Goniatites* and other fossils usually referred to the subcarboniferous era. This shale is found resting upon the Black Shale throughout southern Indiana and western or middle Kentucky.

During the present year (1874) Mr. Borden has had the good fortune to find in the Black Shale at Lexington, Scott county, a large number of well preserved fossils which were sent to Prof. R. P. Whitfield and referred by him to the following species: *Leiorhynchus quadricostata,* Hall; *Chonetes lepida,* Hall; *Tentaculites fissurella,* Hall, and a fragment of a large species of *Cardiola* allied to *Cardiola radians. Leiorhynchus quadricostata,* he says, is in New York, only found in the Genesee shale and the *Tentaculites* is found as well in the Marcellus and Hamilton. The *Chonetes* belong to the Hamilton but is possibly found in the Genesee also, while the *Cordiola* is recognized as a Devonian fossil in general, several species occurring in the Upper Helderberg and Hamilton, including both the black slates in New York.

If, then, we are to rely upon a few known species of fossils for the identity of equivalent strata, we can with propriety refer the New Albany Black Shale to the Genesee, and the Goniatite shale, which rests upon it, to the Kinderhook group of Illinois. This leaves then a hiatus in the formations of Indiana that is occupied in Ohio by the Waverly

group, consisting mainly of shales and heavy bedded sandstone.

The beds of earthy carbonate of iron mentioned in the last Report as being found in great abundance in Clarke and Floyd counties, and especially in the vicinity of Henryville, on the J., M. & I. R. R., are proved to extend into Scott county. I am more and more convinced of the great value of these iron-stone beds, as an accurate knowledge of their extent is acquired. Though lean in iron they contain a large per cent. of manganese and will make an excellent quality of mill and foundry iron. Mr. Stewart, who lives at Henryville and owns large tracts of land containing this iron-stone, has made a careful examination of the beds and finds that there are as many as thirteen distinct seams or bands, ranging from three inches to one foot or more in thickness, in a vertical space of twenty feet. The analyses of various bands of the Henryville ore, was given in the last Report and it will be seen from the following analysis, that the ore is of about the same quality in Scott county:

Scott county ore; earthy carbonate, color, gray.

Combined water	15.00
Silicic acid	14.00
Protoxide of iron	38.56
Sesquioxide of iron	3.01
Oxide of manganese	4.50
Carbonate of lime	2.02
Carbonate of magnesia	.85
Sulphur	.05
Phosphoric acid	.50
Carbonic acid and loss	21.51
	100.00

Total per cent of iron 32.20.

Mr. Stewart says he will contract, at $1.75 to $2.00 per gross ton, to deliver on the cars at Henryville, from 100 to 200 tons of this ore per day, for a period of five or ten years.

One of the most interesting as well as valuable discoveries made during the year, is a large bed of White Porcelain Clay in the Carboniferous rocks of Lawrence county. Pockets of porcelain clay in the carboniferous strata of Pope county, Illinois, have long been known to the public under the name of Golconda Clay, and owing to its excellent quality for the manufacture of fine grades of porcelain it was eagerly sought for by the queensware potters. The Golconda clay is only found in small beds resting on the sub-carboniferous limestone and these pockets are so scattered and difficult to find that, the mining of the clay could not be profitably carried on. Such is not the case in Lawrence county; the bed is here stratified with the rocks and may be traced over a very large area of land, and is from five to six feet thick. On an average about one-third of this thickness is pure white and the remainder is more or less stained with iron and manganese. Beneath the stratum of clay there is a deposit of brown hematite ore from a mere trace to five feet thick; being very irregular and formed in pockets which often encroach upon and diminish the thickness of the seam of clay. The principal body of clay is on section 21, town 4, range 3. This property has been purchased by Dr. J. Gardner of Bedford, Lawrence county, who has associated with him Messrs. Tempest, Brockman and Co., the pioneer potters of Cincinnati. This firm have given the clay a thorough practical test and find that it makes a beautiful white ware equal to the best English iron-stone china. Mr. Tempest, the senior member of the firm who has had a very extended experience in the manufacture of porcelain, feels assured that the discovery of this clay will prove to be the most valuable aid to the advancement of the porcelain manufacture in America that has yet been made.

A mine has been opened and several hundred tons of clay have already been taken out and shipped to the pottery at Cincinnati The following section shows the position of the clay and iron ore and associated strata:

SECTION OF THE PORCELAIN CLAY MINE.

3 Ft.	Soil and Subsoil.
100 "	Coal Measure conglomerate.
6 "	PORCELAIN CLAY—replacing Limestone.
4 "	Iron Ore.
4 "	Marly and Siliceous Shale.
50 "	Chester Sandstone.
17 "	Archimedes Limestone.
10 "	Marly Shale.
40 "	Chester Sandstone.
6 "	Limestone. 1 to 3 inches of Coal.
150 "	St. Louis Limestone—to low water mark in White River.
387 "	Total.

It will be seen from the above section that the clay lies immediately beneath the Millstone grit or pebbly conglomerate of the coal measures and here occupies the place of a bed of Archimedes limestone which is seen in *situ* about two miles southeast of the mine. The overlying sandstone is very ferruginous and the base, where exposed to the weather, has decomposed and covered the clay in places to a depth of eight or ten feet with ferruginous sand and pebbles. There is a constant oozing of water from this sandstone which has, no doubt, played an important part in the chemistry of the clay and hematite deposit, for, though similar in its chemical composition to kaolin, this clay differs physically and owes its origin to an entirely distinct set of causes and effects. While the former is derived from the decomposition of the feldspar of feldspathic rocks, such as granite, porphyry, etc., the porcelain clay of Lawrence county has resulted from the decomposition, by chemical waters, of a bed of limestone and the mutual interchange of molecules in the solution, brought about by chemical precipitation and affinity. Where cavities existed in the limestone at the base of the strata there the chalybeate water found the oxygen to change the carbonate into sesquioxide of iron which finally filled up the cavity. In places, you can trace the passage of the ferruginous water along irregular joints in the clay bed, by the iron-stained path which it has left, to the brown hematite ore which lies in a mass at the bottom. The largest beds of hydrated sesquioxide of iron, both in Europe and America, are found at the base of the Millstone grit and filling up cavities in the cavernous sub-carboniferous limestone.

Owing to the mode of its formation and other features, to be mentioned beyond, I have thought proper to give to this porcelain clay the name of *Indianaite*.

It has associated with it in places a transparent emerald green mineral which I at first took to be a new species of mineral containing in addition to alumina and silica, some glucina. Subsequently Dr. Gardner found a large mass of this mineral in the midst of the clay bed and I sent

some good specimens to J. Lawrence Smith M. D., Louisville, Ky., who has very kindly taken part in the analysis both of this and the porcelain clay. The matter soluble in carbonate of ammonia proved to be alumina and the mineral *Alophane*. According to Dr. Smith's and my own analysis the composition may be stated as follows:

Water	40 per cent.
Silica	20 per cent.
Alumina	40 per cent.

It also contains less than one per cent. of lime, magnesia and alkalies.

A regular gradation from *Indianaite* to *Alophane* may be traced in single masses.

There are at least three well marked varieties of Indianaite, all having very nearly the same chemical composition.

a. Snow white, massive when first mined but slakes and falls into powder after having been exposed to the air for some time, meager feel, powder white and without apparent grit when tested between the teeth, though it exhibits fine polishing properties.

b. Massive, white or purplish brown, cuts smooth like dry putty, powder creamy-white, unctuous feel.

c. In concretionary masses or slabs, pea-green, fades on exposure to light and becomes white, some of the concretionary masses are wrinkled and cracked on the surface, cuts smooth, powder snow white, unctuous feel.

These varities all have about the same specific gravity which ranges from 2.3 to 2.55; hardness 2.5.

Though some parts of this bed of clay are too much stained with iron to be used for making fine porcelain, it is throughout free from undecomposed rock and gives no sensation or grit when tested between the teeth.

A main drift has been run into the seam for a distance of

more than one hundred feet and rooms driven on either side for twenty or thirty feet without finding the least evidence that would indicate its giving out; indeed Dr. Gardener, who superintends the mining informs me that the seam thickens as he proceeds under the ridge and there is less of it stained with iron.

In connection with the analysis of the Indianaite, in the subjoined table are the analyses of some of the most valuable clays, of Europe and other localities in America, used in the manufacture of porcelain.

From an inspection of the above table of analyses it may be seen that the Lawrence county clay takes rank with the best and has the advantage, at the mine, of being free from particles of decomposed rock and sand, or of containing uncombined silica. The importance of the discovery of this clay can hardly be overestimated, since it places within our reach the means of becoming independent of Europe for fine grades of chinaware.

The most extensively worked kaolin beds, at present, in this country, are situated in New Jersey; the most noted being in the vicinity of Woodbridge, Perth Amboy and South Amboy, Middlesex county. They have long been noted for their good qualities and adaptation to the manufacture of porcelain. Only the purest and whitest portions of the beds are employed for porcelain manufacture; the common being used for making fire brick, common store ware, sizing paper, etc. According to the statistics furnished by the Geological Report of New Jersey, the price of clay varies from $1.50 to $13.00 per ton, according to the quality, the average value being placed at $3.50. The number of tons annually mined is estimated to be two hundred and sixty-five thousand, which gives an aggregate of $927,500.00 for the amount of sales.

"There are twelve potteries in Trenton, N. J., employing about one thousand men and one thousand women and boys and turn out $1,500,000.00 of ware annually. The ware is of the common white earthen and iron-stone and its quality is said to be equal to the best English ware of these grades."

TABLE OF ANALYSES OF PORCELAIN AND FIRE CLAYS.

	Silica.	Alumina.	Oxide of Iron.	Manganese.	Lime.	Magnesia.	Potash.	Potash and Soda.	Zirconium.	Water.
Lawrence County, Ind., Var. A	45.90	40.34			trace.					13.26
" " " " B	47.05	37.14	trace.	.03	.03					15.55
" " " " C	47.13	36.76	trace.	trace.	.04					15.13
Golconda, Ill	42.28	43.05			trace.	trace.				14.66
Ballclay, Mo	65.69	24.87	2.54							6.60
Near South Amboy, N. J.	43.20	49.71	0.74				0.37		1.40	14.25
Near Trenton, N. J.	45.30	37.10	1.30		0.17	0.22	1.30		1.40	13.40
Chinese Kaolin, (washed)	50.50	33.70	1.80			0.80		1.9		11.12
St. Yrieix, France, "	48.37	34.95	1.26					2.4		12.62
Cornwall, England	46.32	39.74	0.27		0.36	0.44				12.67
Stourbridge Fire-Clay, England	64.10	23.15	1.85			0.95				10.00
Pipe Clay, England	53.66	32.00	1.35		0.40					12.08
Brick Clay, "	49.44	34.26	7.74		1.48	5.14				1.94

The table gives the analysis of the clay used in China and at the celebrated Government Pottery at Sevres near Paris; the Cornish porcelain clay; the celebrated Stourbridge fire-clay and English brick-clay; the New Jersey porcelain clay; the Golconda, Ill., porcelain clay and the ball-clay of Missouri.

It occupies the same geological position as the Golconda clay, its origin is due to the same chemical agencies and its working properties are alike favorable for the manufacture of fine grades of porcelain ware.

The Missouri ball-clay is used at a number of American potteries in making the body of the ware, and the analysis is interesting for comparison with other clays used in the ceramic art. It is mined by Mr. J. W. Reed, eight miles west of DeSoto, Missouri.

"The geological position of these deposits of clay is in the Cretacious formation and they constitute the lowest member in New Jersey. They are found in a belt of country which stretches across the State from northeast to southwest; its northeast end being in Staten Island and Raritan bay, and its south-west end in Gloucester county. On its northeast edge it joins the red sand-stone from Woodbridge to near Trenton, where for five or six miles it borders on the gneiss rock and from there to near its south-western end it follows along or near the Delaware river. Its southern end descends beneath the clay marshes, *i. e.*, the clay containing green sand marl. White clay, sufficiently pure to make fire brick and some varieties of pottery, is found throughout the whole length of this belt; but the finest quality of clay has been almost entirely got from the eastern end of the belt, comprising that part which lies in the break or opening between the trap ridge which extends along the west bank of the Hudson River and across a part of Staten Island, and that ridge of trap which begins about six miles west of Raritan and, under the name of Rock Hill, extends on for for many miles to the south-west." *

*Geological Report of New Jersey, by Geo. H. Cook.

On account of the interest which the Lawrence county clay must attract I have, for the sake of comparison, also selected from the Geological Report of New Jersey, 1874, page 47, a table of analyses of the clays used for fire brick and pottery together with the analysis of the famous Stourbridge clay and the German clay from Coblentz on the Rhine.

	No. 1. Woodbridge, N. J.	No. 2. Woodbridge, N. J.	No. 3. Woodbridge, N. J.	No. 4. Stourbridge.	No. 5. Coblentz.
Alumina	27.13	40.14	39.94	28.11	16.33
Silicic acid, combined	30.22	41.67	42.22	29.67	17.99
Silicic acid, free	1.10	1.21	1.22	1.11	1.10
Silica, quartz sand	29.00	.50	.71	27.73	55.30
Peroxide of iron	1.26	.51	.41	1.91	1.19
Magnesia	.08	.....	.....	.37	.29
Potash	trace.	.41	.47	.44	.66
Titanic acid	1.93	1.42	1.63	1.06	1.25
Water, combined	9.63	13.59	13.44	10.36	5.84
Totals	100.35	99.45	100.04	100.76	99.95

No. 4 is the English clay from Stourbridge, and No. 5 is the Coblentz. No. 1 is the New Jersey clay from the pits of William B. Dixon of Woodbridge, and has a fine reputation for making fire brick and glass pots. The analysis shows that it has about the same composition as the Stourbridge and Coblentz. Nos. 2 and 4 contain less uncombined silica and are used for fire-brick and pottery.

For purity of composition and clear white color the Lawrence county clay is not excelled, if equaled, by the kaolins of Europe or this country, and it must rapidly come into use. All that is wanting now in order to make the fine transparent china, similar to the Berlin, Sevres, Dresden and Austrian, is the skill to know how to use it.

The iron ore which underlies the bed of clay in Lawrence county, and found also in many places where there is no white clay above it, has been somewhat extensively mined by the Southern Indiana Coal & Iron Co. during the last two years. It contains only .75 to 2. per cent. of silicia and has 55. to 60. per cent. of iron and 3. to 5. per cent. of sesquioxide of manganese. It smelts easily, requires but little fuel and flux and makes an excellent quality of pig iron. Four specimens, from as many different localities, show the following composition:

No. 1. Analysis of hydrated brown oxide of iron from section 21, T. 4. R. 2, southwest corner of Lawrence county. Ore bed two feet thick overlaid by five feet of white clay (kaolin); the ore is used in the Shoals blast furnace.

Hygroscopic water	3.000
Combined water	8.500
Insoluble silicates	3.000
Sesquioxide of iron	79.000
Sesquioxide of manganese	2.000
Alumina	2.000
Magnesia carbonate	.426
Lime carbonate	.528
Phosphoric acid	.338
Sulphur	trace
	98.792

Iron 55.3. Phosphorus .139.

No. 2. Analysis of hydrated brown oxide of iron, locality, same as No. 1.

Hygroscopic water	1.75
Combined water	8.50
Insoluble silicates	3.50
Sesquioxide of iron	80.00
Sesquioxide of manganese	2.00

Alumina	2.00
Magnesia carbonate	.43
Lime carbonate	2.00
Phosphorus	.14
Sulphur	none
	100.32

Iron 56.

No. 3. Analysis of hydrated brown oxide of iron from land of Geo. Whitaker, sec. 28, T. 5. R. 2, the ore is brownish red, fine grained and free from chert, and used in the Shoals blast furnace.

Loss by ignition, water	13.000
Insoluble silicates	.900
Sesquioxide of iron	84.890
Manganese	none
Alumina	trace
Magnesia	none
Phosphoric acid	.145
Lime carbonate	1.000
Loss	.065
	100.000

Iron 59.42.

No. 4. Analysis of hydrated brown oxide of iron, locality same as No. 3.

Loss by ignition, water	13.000
Insoluble silicates	1.200
Sesquioxide of iron	83.200
Manganese	none
Alumina	trace
Magnesia	none
Lime carbonate	2.000
Phosphoric acid	.150
Sulphur	trace
Loss	.450
	100.000

Iron 58.24

The manufacture of porcelain in the United States has, in the last few years, grown very rapidly in importance and with an abundance of suitable porcelain clay there can be no good reason why the ceramic art should not reach a very high degree of perfection in America, since we are, probably, the best customers for fine ware, due to an almost universal and liberal distribution of wealth among the populace. Notwithstanding the progress made in the production of ware in this country the importation last year amounted to about $6,000,000. Surely, a demand so far beyond our present means of supply should steadily lead to the building of additional potteries, especially in the west where the market is constantly on the increase, and to efforts for the production of the finer grades of chinaware. Though the consumption of the latter is not equal to that of the common ware, still it is very great and at present has to be met entirely by importation from Europe. Potters are earnestly requested to test the properties of Lawrence county porcelain clay for this purpose and there is no doubt but the effort will be attended with success.