

HANCOCK COUNTY.

BY R. T. BROWN, A. M., M. D.

Hancock is one of the central counties of Indiana, and is the smallest and the newest of that group. It is bounded on the north by Hamilton and Madison counties, on the east by Henry and Rush, on the south by Shelby, and on the west by Marion and Hamilton counties. It comprises an area of three hundred and seven square miles, or 196,480 acres of land, consisting in part or whole of townships 15, 16 and 17, in ranges 5, 6, 7 and 8 of the original government survey.

CIVIL HISTORY.

Hancock County was organized as a separate jurisdiction in 1828, having been included in the original organization of Madison County in 1823. In August of that year an election was held at what is now Greenfield, at which Jacob Jones and Joseph B. Stevens were elected Associate Judges, Bethnel F. Morris being Circuit Judge. Calvin Fletcher was elected Senator; Elisha Larned and Wm. Conner, Representatives; Lewis Tyner, Clerk; Henry Watts, Treasurer; John Foster, Sheriff; Samuel Vaugilder, John Hunter and Elisha Chapman, Commissioners. These Commissioners proceeded to divide the county into nine civil townships, arranged in three tiers, and named from west to east as follows: Northern tier—Vernon, Green and Brown. Central tier—Buck Creek, Center and Jackson. Southern tier—Sugar Creek, Brandywine and Blue River. Though regular in form, these are not uniform in size. Center Township has sixty-eight square miles of surface, while Blue River has but thirty.

TOPOGRAPHY AND DRAINAGE.

The northern part of Hancock County occupies the water shed between the east and west forks of White River, and, like summit lands generally in Indiana, this county presents a quite level surface. There is, however, a general inclination of the surface from the east toward a point about twenty degrees south of west. For this there is a geological reason which will be named in its proper place. This general slope of the surface produces a peculiar arrangement of the tributaries to several streams which

furnish the drainage of the county. These tributaries almost invariably enter the principal streams on the east side. Within a short distance of any these streams on the western side the water will be found flowing toward the next stream west. The knowledge of this fact is important in establishing a general system of drainage for the county.

Blue River is a large stream, and is the principal source of the east fork of White River. It passes, for a distance of about four miles, through the south-eastern corner of the county. In that distance, however, it receives from the north a branch which, on the map, is called Nameless Creek. It has a very direct course from the north to the south through a length of eight miles. From thence to the extreme head, a distance of two miles, its direction is from north-east to south-west. Like most other streams in this region, its upper course is artificial, having originally been a broad slough with no well defined banks. Under a statute of the State, public ditches have been made in such cases as this, and the water gathered into a definite channel, much to the relief of adjacent lands.

A short distance west of Nameless Creek the drainage is westward toward Brandywine Creek. This was originally a deep, sluggish stream, with a muddy bed and low banks, which overflowed indefinitely in times of freshets. It leaves the county, crossing the southern boundary in section 32, township 15, range 7. For a distance of twelve miles north of this the stream has a pretty direct course from north to south. In this reach it receives Little Brandywine from the eastern side. This, in nearly its entire course of seven miles, is now a public ditch. Indeed, Brandywine, in its main stream, has been ditched more or less, in its entire course, chiefly for the purpose of straightening its bed and thus increasing its current. This, together with the clearing the channel of driftwood and other obstructions, has given the stream a greatly increased current, and this, in turn, is cutting down its bed, carrying away the mud but leaving the gravel, thus materially changing, for the better, the general character of the stream. More work in straightening the stream might yet be profitably done. At the north end of this long reach in section 3, township 16, range 7, the stream makes a remarkable curve to the east, and for nearly two miles its course is from south-east to north-west, and from this onward to its head it is very crooked, except where it has been straightened by ditching. This work might be extended with a decided advantage to the adjacent land, though the banks of the stream, in the vicinity of the great bend, are much higher than below, and the land back from the stream is generally more elevated.

Sugar Creek is the principal stream of the county. Tracing it in the opposite direction to its current, the stream, from the point where it leaves the county on the south, on a line between sections 31 and 32, township 15, range 5, till we arrive at its great bend in section 24, township 17, range 6, a distance of fifteen miles, the course of the stream does not

vary more than half a mile at any place from a direct line north, twenty degrees east. From this point we trace the stream directly east four miles. From thence it is exceedingly crooked, winding its way in broad valleys among gravel moraines and low clay hills till it reaches the extreme north-eastern corner of the county where Sugar Creek is lost in Henry County in the form of a public ditch. A considerable tributary of Sugar Creek lies between that stream and Brandywine, having its junction with the principal stream about three miles below the county line. It has a course of about seven miles in Hancock County, nearly parallel with the principal streams on the east and west of it. On the original map this stream is called Swan Creek, but it is now known as Little Sugar Creek. The whole course of Sugar Creek in this county is about thirty miles, and a remarkable feature of the stream is that in its whole course it has but one tributary, and that a small branch (now a public ditch), entering it from the south in section 17, township 17, range 8. This, however, is accounted for by the circumstance that it has Little Sugar Creek and Brandywine within four miles on the east, and Buck Creek about the same distance on the west. Sugar Creek has generally a brisk current and a gravelly bed till we reach the great bend, within two and a half miles of the north county line. From this point the current becomes more sluggish, though improvements in the way of straightening the stream have greatly improved it in this respect, and the increased current, acting as a jetty, is constantly deepening the bed of the stream. This would diminish the liability to overflow in freshets, but for the fact that numerous ditches, both open and tiled, now pour the rainfall of the county directly into the principal streams, which formerly remained in ponds and marshes, and slowly found its way through various obstructions to the sluggish creek, or was carried back into the air by evaporation. The streams now rise more rapidly and fall directly.

Buck Creek, a large confluent of Sugar Creek, which forms a junction with that stream seven miles below the Shelby County line, affords drainage for the western part of Hancock County. Though there are no natural streams, yet several public ditches carry the surplus water from within a mile of Sugar Creek to Buck Creek. Originally several broad sloughs and extensive marshes existed in the south-western quarter of township 17, range 6, which drained themselves into a wide swampy channel known as Buck Creek. This took the form of a pretty well defined stream before it crossed the line into Marion County in section 11, township 15, range 5. From a short distance above the county line such creek was ditched to its head several years ago with the effect of reclaiming much valuable land. But the work was imperfectly done; the ditch is too small to carry the water supplied from lateral drains, and its course is not sufficiently direct to secure such a current as will give a rapid flow of water. A re-survey and location of the ditch has been made.

If this plan is carried out it will give perfect drainage to a large district of excellent land. On the northern border of the county several small streams rise and flow north into Fall Creek, an important tributary of the west branch of White River. The largest of these has its rise in section 34, township 17, range 6, and passes out of the county near Fortville, having run a course of about six miles in this county.

An opinion formerly prevailed that the level surface of Hancock County did not afford sufficient fall in the streams to secure a perfect drainage. A careful examination of the topography of the county will correct this opinion. The bed of Sugar Creek in section 21, township 17, range 8, near the north-east corner of the county, is more than a hundred feet above the bed of that stream at the point where it crosses the Shelby County line. This is sufficient to produce a brisk current in the whole length of the stream if it were confined in a single channel and made reasonably straight. This is the case, to a good extent, below the great bend, and above that local ditches have cut off many of the abrupt curves, but a general system of ditches should be constructed so as to straighten, as far as possible, the winding course of the stream, and confine its water to a single channel. A direct course is one of the first considerations in making a ditch. In a straight ditch with smooth sides and bottom a fall of an inch in a hundred yards will give a fair current, but if the ditch is crooked and roughly constructed the water will scarcely move in it. The public ditches lately constructed in this county show a marked improvement in these respects over those made in early days of the county. In addition to directness of course, a ditch should be so wide and deep as to carry all the water, even of a freshet, without much overflow.

GEOLOGY.

This is, of necessity, a short section. The underlying rocks nowhere appear on the surface in Hancock County, nor do any of the streams cut deep enough to expose them. But rocks of the Devonian age appear in the counties adjacent, both north and south; it may, therefore, be assumed that the foundation of this county is Devonian limestone, belonging chiefly to the Corniferous formation. It is possible that borings through the Drift in the north-east corner of the county would reveal the Niagara limestone as the underlying rock. The general configuration of the surface indicates that the dip of the underlying rock is west, about twenty degrees north. The deposit of the Glacial Drift is uniform over the whole county, and probably very deep, but as we could learn of no borings that had measured the thickness at any point its depth can only be conjectured. The usual division of the Drift into boulders, surface clay, sand and gravel, and blue clay or "till," is found. Boulders of granite or other metamorphic rocks are pretty liberally distributed over the county,

though I observed but one locality where their presence materially interfered with cultivation. In the extreme south-west corner of Greene Township there is a belt of bowlders half a mile wide, extending from north-east to south-west for a distance of three or four miles. In this belt the observer is seldom out of sight of a bowlder, and on the farm of Mr. Roberts (Sec. 36, T. 17, R. 6), for a space of twenty or thirty acres, it would be difficult to plow among them. They are of various sizes, from six inches in diameter to four or five feet. A few of them show lines of cleavage, but generally they are crystalline and give no evidence of sedimentary origin. They are generally exposed in the greater part of their size above ground, and their perfect preservation in this exposed condition is an evidence of their durability. They can be broken by dynamite, and made useful for foundations, cellar walls, etc., and at the same time an obstacle to cultivation be removed from the field.

The upper clay is generally yellow or orange-colored, and on a special quality of ground originally supported a heavy forest of beech and oak trees. The clay is a pale cream-color. On the more elevated lands, where this upper clay does not cover a superficial bed of gravel, it is generally from fifteen to twenty feet thick, with a bed of sand or fine gravel separating it from the lower clay or till below. This sand or gravel is the water-bearing stratum that supplies most of the wells furnishing water for domestic purposes, watering stock, etc. This upper clay contains carbonate of lime in the form of sand and pebbles, from which the water in percolating through it becomes sufficiently charged with that substance to render it hard before it reaches the reservoir below. A difficulty exists, however, in preventing surface water from entering the well through the porous upper soil when that becomes saturated with water in times of heavy rains. This passes down behind the wall of the well unnoticed, and holding in solution organic matter in such quantities as to render the water unfit for present use, it precipitates a portion of this in the well, which becomes a permanent source of pollution. This difficulty can be obviated by driving an iron tube through the clay to the water-bearing stratum, thus shutting off the surface water and obtaining generally a good article of wholesome water. If the earth be raised near the well and a line of tile sunk three feet deep and about the same distance from the well on every side of it, and furnished with a good outlet, it will give the well a fair protection against surface water.

In the low lands—the “black ground,” as it is commonly called—the upper clay is always thin and often entirely wanting. Here we have a stratum of vegetable loam from two to five feet thick, frequently resting directly on the till or lower blue clay. This is an indication that these low lands are valleys of erosion where the upper clay and gravel were carried away by glacial action, or that from this or some other cause this material was prevented from being deposited in these localities. To what-

ever cause we may refer this phenomenon, the inference is legitimate that the till was deposited and well compacted before the ice field brought its burden of bowlders, gravel and clay from the Laurentian hills to make a top dressing for our Indiana farmers.

We have said that no reliable data has yet been furnished that will indicate the thickness of this lower clay. I found several persons who had bored into it twenty-five or thirty feet to a water-bearing stratum of gravel or sand, but whether this was the bottom of the clay, or only an intermediate stratum, which often occurs in this formation, we have no means of determining. This clay as it lies in its natural bed is generally very compact and hard, from which cause it has received the common name of "hard-pan." When moistened and tempered it becomes quite soft and plastic, having an unctuous or talcose feel, and is often so fine as to be profitably used in art modeling. When moist it has a blue or lead color, but when dry it assumes an ashy appearance. Though it appears to be a very pure clay, yet a careful washing of it will discover that nearly fifty per cent. of it consists of very fine grains of nearly transparent sand. The coloring matter is a sulphide of iron, which a red heat will convert into an oxide, and the color will be changed to a dark red. Owing to the presence of iron, water which percolates through this clay becomes chalybeate and deposits a carbonate of iron where it runs. Several of these springs are found in this county, and are valuable for their constancy and durability, as well as for the mild tonic effect of their water. They generally rise perpendicularly through a fissure in the clay, and are really natural artesian wells. It is probable that in many places along the National Road and south of it a tube sunk to the bottom of this clay will give a constant flow of water. The experiment is worth trying.

The ice age has left its foot-prints on the face of this county, not only in numerous gravel beds, which appear to be either terminal or lateral moraines, and in the liberal distribution of bowlders, but in several valleys of erosion, where the present flow of water can not be supposed to have made the excavation. A noticeable instance of this is Swamp Creek, which extends from Sugar Creek, near the village of Eden, in a direction nearly due south, to Brandywine, a distance of six miles. The general width of the valley is about two hundred yards, and its surface lies twelve or fifteen feet below the adjacent grounds, but examination shows a depth of from ten to fifteen feet of black muck, which is really in the condition of peat, for it burns freely when dried. Originally there was no stream in this valley, but an attempt having been made to drain it, with but indifferent success, has developed a sluggish stream near the middle of it. Several similar valleys of less magnitude and depth were observed, but no difficulty occurs in draining them where the ditch reaches the solid clay below the muck.

Gravel of a good quality for the construction of roads will be found abund-

ant when proper search is made for it. Many excellent gravel banks have already been opened and quite extensively worked, for Hancock County is not far in the rear of any county in the State in road improvements. In addition to a good supply of bank gravel, Sugar Creek furnishes an abundance of gravel of a quality superior to any bank gravel, for when it is exposed in the bed of a stream, the soft or decaying pebbles soon disappear, leaving only those that are hard and durable. Other streams are showing a disposition to rival Sugar Creek in the supply of this important road material, for, as obstructions are removed and the stream straightened, the current increases and carries away the mud, and leaves the pebbles and coarser sand in the deepened bed of the stream. In this manner gravel beds are directly developed even in the bottoms of well-constructed ditches. In the use of gravel for the construction of roads, much can be saved by the proper attention to the drainage of the road-bed. Water should never be allowed to stand in the ditches by the road-side, nor form ponds near it.

SOIL, HEALTH, IMPROVEMENTS, ETC.

The soil of Hancock County may be divided into four classes, though these shade into one another almost imperceptibly:

First and largest of these groups is a clay loam, with a large per cent. of sand and sufficient coloring matter to give the soil a brown tinge. It rests on a subsoil of compact yellow clay. The surface of this quality of land is generally so undulating as to prevent surface water from standing on it. Originally it bore a heavy forest of sugar maple, ash, yellow poplar (tulip tree), black walnut, white oak, red beech, etc. This timber stood thickly on the ground, grew very tall, and beneath it was a dense undergrowth of spicewood and other shrubbery. This undergrowth has entirely disappeared and much of the forest has given place to cultivated farms, yet the timber in this county has been better preserved than in most of the central counties of the State.

Second. A pale, cream-colored clay loam, with very little vegetable mold on the surface, is found generally occupying the flat summits between the streams. Another peculiarity of this class of soil is that in breaking it the plowshare is continually grating, as if passing over small pebbles, and an inspection of the bottom of the furrow will show numerous dark stripes made by the plow crushing little nodules, which an examination will prove to be humate of iron. They have an interesting history. The soil is a compact clay with a good absorbent capacity, so that though it is seldom covered with water more than a few days at a time, yet it is saturated during most of the winter and spring months. In this partially exposed condition the annual coat of vegetable matter is converted into humic acid, which seizes on the iron, which is the coloring

matter of the clay, and forms these nodules, leaving the clay nearly white. If this quality of soil is well under-drained, so as to relieve it from saturation and give it free access to the air, these nodules will, in a few years, dissolve, and the iron will become again the coloring matter of the soil, and the humic acid being decomposed will become an element of fertility in the soil. This quality of soil is not highly esteemed by farmers. They instinctively call it a "cold, sour soil," a title that exactly expresses its qualities. It is cold because the water which saturates it must be chiefly disposed of by evaporation, which is a cooling process; and it is sour by reason of the humic acid it contains. But thorough drainage cures both these defects, and its high absorbent properties make it a very productive soil, and one that will be durable and retentive of manures. The native forest of this quality of land is beech, white oak, hickory and elm.

Third. The third division comprises the soils generally known as black lands. They consist of a dark sandy loam highly charged with imperfectly decomposed vegetable matter. This is generally from one foot to three feet in depth, though sometimes it is much deeper and the soil assumes the character of muck, the vegetable matter having passed into the condition of peat. This black soil rests on a tenacious subsoil of blue clay which is almost impervious to water. These lands lie at the origin of the streams and in valleys where the drainage has been obstructed so that the ground is covered with water in winter and spring months. The annual crop of leaves and other vegetation deposited on it in the fall, imperfectly decomposed under water, contribute every year to the vegetable matter of the soil. When drained properly these lands, being very porous and loose, dry rapidly after a rain and warm up early in the spring, so that vegetation starts on them even earlier than on river bottoms. It costs something to reclaim these black lands, but when the superficial streams are put into ditches, large enough to carry off the water of the freshets, and deep enough to furnish a free outlet for tile drains, these become the most valuable farm lands of the country, especially for the production of Indian corn. This quality of land is quite abundant in this county. It was originally covered with a heavy growth of timber, consisting chiefly of burr-oak, elm, swamp-ash and soft maple, and was considered waste land, but is now being rapidly reclaimed by ditching and tile draining.

Fourth. The fourth and smallest division consists of alluvium, or river bottom lands. Blue River, in a course of about four miles across the south-eastern corner of the county, furnishes some fine farms of both first and second bottom lands. In a few instances the first, or low bottoms, overflow occasionally. They consist of a deep sandy loam, and are very fertile and easily cultivated. The second bottom, or terrace lands consist of a rich sandy loam resting on a gravel subsoil. This soil is very

productive, but is sometimes unfavorably affected by drouth. Occasionally there occurs a foot or two of clay between the loam and the gravel, which proves a valuable protection against drouth.

But few counties in Indiana have less waste land than Hancock. Indeed, with the exception of the actual beds of the streams, there are not ten acres of land in the county that can not be profitably cultivated, but it has been a hard county to make farms in. The pioneers had first to remove a heavy forest. This was a labor of which the man who has not performed it has no conception. Then the streams were superficial, and in times of freshets they become great lakes of standing water. These had to be ditched into definite channels—an immense labor. Then the clay subsoil everywhere demanded tile draining to bring out its full capacity and assure the certainty of a crop. Added to all this, the roads in the deep, loose soil became impassable every spring, and required grading and graveling. To make productive farms and a pleasant country under such circumstances is an immense labor, but the energy and perseverance of the citizens of Hancock County is proving itself equal to the task. A few years hence will see this one of the most productive counties in the State.

Many of the pioneers of this county suffered severely from various forms of malarial disease. Considering the condition of the county, and of the immigrants, this could hardly have been otherwise. The soil, largely composed of decaying vegetable matter, was shut out from the healthful sunshine by the dense shade of an unbroken forest, and being saturated with moisture, it was a fruitful source of aerial poison. The streams, obstructed by fallen trees and accumulations of driftwood, becoming little better than stagnant ponds in the heat of the summer months, added largely to the other source of disease. The new-comers thus exposed were but poorly housed, and were too often careless of even the protection they might have had. The water they drank was often but little better than the drainage of the surface, and their diet was limited in variety, and frequently confined to articles not at all promotive of health. Under these circumstances it is not surprising that Hancock acquired the reputation of a sickly climate. But half a century of well-directed industry has removed these fruitful sources of disease, and to-day but few more healthful locations can be found than this. A little more care in the supply of water for domestic use would relieve the farm-house of a fruitful source of what sickness remains. There are but few springs in this region, and we have already spoken of the supply of well water and the difficulty of securing it against the infiltration of surface water. Physicians report the prevailing sickness at present to be a modified form of typhoid fever.

The public improvement in Hancock County began with the location of the Cumberland Road through the county in 1827. This thoroughfare,

better known as the National Road, was opened in the years of 1828 and 1829 by clearing the timber from ninety feet in width along the line dividing townships 15 and 16 of the original survey, and bridging Brandywine and Sugar creeks at the crossing of these streams. The abutments of these bridges were built of bowlders gathered up over the county and worked into the substantial masonry. These bridges remain to the present day, doing good service. This road was designed to be a great National thoroughfare, connecting the Mississippi River at St. Louis and the intermediate cities with the sea-board at Baltimore. It was a grand conception, but was spoiled by the introduction of railroads. Its location served to fix the place of the county seat and hasten the settlement of the central belt of Hancock County, though no part of it was ever finished by the General Government according to the original design.

Greenfield, the county seat, is divided by the section line, the north part lying in section 32, township 16, range 7, and the south in section 5, township 15, range 7. It is located centrally between the east and west lines of the county, but is two and a half miles south of the center from north to south. Its present population is about two thousand five hundred. It has a commodious court-house, three or four church edifices and a number of respectable business houses, which do a fair amount of trade, being connected with the world abroad through the Chicago, St. Louis & Pittsburg Railroad. Besides the county seat, there are several villages and post towns distributed over the county, of which Philadelphia and New Palestine are in Sugar Creek Township, Reedsville in Brandywine, Westland in Blue River, Charlottesville and Cleveland in Jackson, Maxwell in Center, Mount Comfort and Mohawk in Buck Creek, Willow Branch, Wilkinson, Warrington and Nashville in Brown, Eden and Miller's Corner in Green, Fortville and McCordsville in Vernon Township are the chief.

Hancock County is well supplied with railroads. Four lines diverging from Indianapolis in an easterly direction traverse the county. These are the Cincinnati, Hamilton & Dayton, which runs through the south-west part of the county; the Chicago, St. Louis & Pittsburg, through the central part; the Indiana, Bloomington & Western, dividing the northern half of it into nearly equal parts, and the Bee Line (C., C., C. & I.), running diagonally through Vernon Township. No part of the county is more than four miles from a railroad. The extensive improvements in the way of gravel roads, many of which are "free," speak well for the enterprise and public spirit of the citizens. But few counties in the State have better roads.

Private improvements in the way of farm and farm buildings in the central and southern parts of the county are generally respectable, convenient and permanent. In the northern section the farms are newer, much of the original forest is yet standing, and on many of the farms the

houses and barns of the pioneers are yet to be seen, but these are rapidly giving place to commodious and tasteful buildings of brick or frame. But the improvement which is adding most to the value and productiveness of the farm is the ditching of the superficial streams and the underdraining of the level fields, thus developing farms of almost fabulous fertility.

ARCHÆOLOGY.

The Mound Builders have left but few traces of their occupancy of the territory embraced in Hancock County. Spear-heads, arrow-points, axes, and other stone implements, are occasionally picked up in cultivated fields, but I saw no mounds or tumuli in the county that I was reasonably certain were not of natural origin. There is, however, in section 11, township 16, range 7, some curious earthworks that probably belong to the age of the Mound Builders. These are located on the farm of Mr. H. F. Braddock, and lie on the south side of Brandywine, at the extreme point of a very abrupt bend of that creek. A ridge of clay land some ten feet above the creek bottom, and covered with oak timber, projects sharply into a piece of marshy land to within three hundred feet of the creek. From this point a levee, three feet high and ten feet wide, has been constructed to the ancient bed of the stream. The excavation which furnished the earth for this embankment is distinctly seen in the projecting point of high ground, and immediately back of this are three pits about eight feet in diameter and six feet deep, and east of these, about ten feet, are two other pits of the same dimensions, but not quite so deep. These works are evidently artificial and ancient, for large trees are now growing on the sides of these pits and on the embankment. About fifty yards east of these pits was formerly a small lake or pond, which may have been an excavation, but probably was natural. It is now drained. When, by what people, or for what purpose these works were made, we venture no conjecture.

ACKNOWLEDGMENTS.

I am under many obligations to the citizens of Hancock County generally for their hospitality and the courteous treatment extended to me while engaged in this work, and for special aid offered me by Dr. Ely, of New Palestine, and Mr. Wm. A. Milburn, of Center Township, which greatly facilitated my work.