

Mineral Deposits and Works of the Hempfields.

Every one of the forty townships in Lancaster county has some earth deposits, or mineral veins, of a more or less productive value. And these ores and minerals have a history. It is not generally known, and may even seem surprising, that our local lands (lauded the country over as farms of the finest agricultural fertility) have evidences of silver, nickel, zinc, lead and coal; while those ores and deposits more commonly recognized, like iron and limestone formations, are in evidence at numerous localities.

It is the purpose of this present sketch to give a graphic history of the mines in various portions of East and West Hempfield townships, where the writer happily spent his boyhood days. I shall divide this article into several parts, the first treating on

Zinc and Lead.

About one and a-half miles east of the pretty village of Landisville is the small settlement of Bamfordville (its postoffice now being named Bamford). Directly northeast from the Harrisburg turnpike, and bordering on Snipe or Snapper creek (a branch of the Little Conestoga), is a famous deposit of lead and zinc ores, the discovery of which, including their development, will prove interesting to the present generation.

Away back, during the time of the Mexican War, a fence-maker, Samuel Pickel (who died at Landisville, December 8, 1883), was engaged in dig-

ging post-holes for a fence on the farm of Henry H. Shenk. These two men at that time thus accidentally found some lead ore in rock taken from these small openings. Samples were examined by Dr. Fahnestock, a chemist of Lancaster, whose analysis showed zinc, lead and traces of silver. Soon after Mr. Pickel's original find of mineral, buildings were erected on the Shenk farm, and the manufacture of oxide of zinc, for painting purposes, was carried on for a brief period. This was by the Lancaster County Mining Company, composed of Christopher Hager, John Shenk, David Hartman, Christian Bachman and David Longenecker. They were granted perpetual mining privileges (as recorded in Book F, page 499, Lancaster Recorder's office), on the property of Henry H. Shenk, comprising one hundred and five and a-half acres, for the consideration of \$25,000, under date of December 13, 1847. Afterwards the buildings were torn down, and most of the wood material was used up in a large barn yet standing at Musselman's Mill, East Hempfield township. The writer believes the credit for this original discovery of a deposit of lead and zinc ores was first given in print in the defunct Landisville Vigil, published by him, during 1883.

A Famous Transaction.

The mines lay idle for a number of years, when, about 1872, a traveling mining expert happened to hear of this neglected spot of alleged hidden wealth; and this sharper, named Captain Tamblin, at once sought an interview with the Lancaster County Mining Company, of which Mr. Shenk†

†Henry H. Shenk, the owner of the old oxide of zinc property, was the father of Dr. David H. Shenk (at that time pursuing his medical education, and afterward practicing for many

was one of the interested stockholders. The Captain shrewdly saw how anxious the Shenks were to have the mine-farm off their hands, and he secured a promise of a rich recompense should he procure a buyer. He immediately left for the metropolis of New York;* and afterward came across Charles Bamford, a member of the millionaire firm of Bamford Bros., pork packers, with offices in Chicago, New York and Liverpool, England. Captain Tamblin at once fell into the good graces of the rich Englishman, and, after telling him of a wonderful mine of zinc in Lancaster county, he succeeded in getting Mr. Bamford interested in the matter to such an extent that the pork packer offered the wily Captain a sum of money if he secured the mine for him. The Captain had left Mr. Bamford a rich specimen of zinc mineral. Mr. Bamford had seen this taken from an old shaft in the mine, and he took it to an assayer soon after. The examiner of minerals at once pronounced it a good specimen, yielding about seventy-five per cent.; at the same time stating his belief that it was not from Lancaster county, but from the distant State of Colorado. The assayer said: "There is such a thing as salting a mine."

years at Rohrerstown, and who is now located on North Duke street, Lancaster). Henry's brothers, Jacob and Isaac, were interested to some extent in the disposition of the farm; as also were other stockholders, including the father of Samuel L. Hartman, in their mining privileges previously transferred to the Shenk brothers.

*Upon the authority of prominent men yet living, including George M. Steinman, it is said Captain Tamblin was accompanied in his sea-voyage to Bamford by one of Henry H. Shenk's brothers (presumably Jacob), and it is hinted that this brother was tendered a very large sum to help effect the Captain's deal with Bamford. It is also hinted that Henry finally had very little left, financially, from the sale of the mine farm.

Mr. Bamford seemed to take the hint, and, one night, came on to Landisville, without anyone's knowledge of his presence and purpose. Quietly he went down the shaft of the old mine about midnight, and, with the aid of a lantern and pick, broke off at several places from supposed solid rock, pieces of the mineral. These he exultantly took back to the New York mineral assayer and awaited his opinion of their worth. One specimen yielded some forty per cent., and the others about half that. Although not as good as the piece Captain Tamblin procured, the specimens which Bamford secured himself were good enough to convince him of the value of the mine; and he purchased it forthwith.

Then the Captain again showed his adroitness at winning lucre for himself by getting Bamford's consent to erect great works at these deposits and to fit them out with first-class machinery. Without first wisely digging after a supply of zinc, large furnaces were erected, one of which a hurricane blew over before completed. It was, however, immediately finished, in brick and wood, and a large sum of money spent for various crushing and separating machinery, much of which was of necessity imported from Wales. The most expensive and intricate machinery was placed in a four or five-story "jig-house." It is said that the Captain made a snug percentage on all this complicated work for which he contracted. While thousands of dollars had thus been foolishly spent (as Messrs. Haldy and Howry, late of the Lancaster County National Bank, could verify when living), on work above ground, the tricky Tamblin found that it was becoming rather uncomfortable for him, and he suddenly departed for new fields of labor, with no little fortune.

Developing the Mines.

Under the new management of Mr. Spillsbury, a practical mining engineer, the works and mines were operated for some time. Search was then made for veins of zinc, sometimes moderately successful, and just enough to keep the furnace fires lit; but, as a rule, most deposits of the mineral being found in "pockets," which soon became exhausted. Finally, the Bamford brothers, after having spent nearly \$300,000 in the fruitless effort of developing these mines to a paying extent, closed up the works in the fall of 1877.

Possibly few mining plants in Eastern Pennsylvania had so complete arrangements for making their own necessities as the zinc works at Bamfordville. Here there were, besides tool houses, carpenter and blacksmith shops, special places for making, and ovens for baking, their own fire-brick, used in lining the furnaces; and here, also, were made by skilled labor the peculiar clay crucibles and retorts wherein the crushed zinc was reduced to metal. These men, most of them, received \$100 and over a month; and, like many of their kind, spent all of their earnings each month. Most of them were of foreign descent—Welsh, Spanish, French and Italian; and ale was their daily drink at the family table, with American beer and whisky as side lines on a pay-day.

During the Centennial era, about 1876, when the smelting furnaces were in full blast, I spent not a few summer evenings at the zinc mines, watching the brawny men, as they sang odd melodies, "roast" the crushed ore in low, hot ovens, with small fire-doors; then "charging" the crucibles at the smelting section with the brownish product, and capping the retorts with long, funnel-shaped hoods—around the

circular openings of which, when all were at a white heat, the most peculiar, deadly-looking flames and fumes played in weird-like, flickering lights. The heat was so intense that almost every day new retorts had to be put in place of cracked ones, before an entire section of a furnace was rebuilt, after being chilled. The pouring of zinc into the familiar moulds was very fascinating to me, the molten metal flowing like silvered water from the long ladles of the furnacemen. These blocks of zinc were probably an inch in thickness and 8x16 inches in size, with the top regularly stamped with the firm's name, an emblem symbolizing strength or quality in centre, and location at bottom of plate.

For a time all material had to be hauled from or to Landisville station, necessitating heavy teams and much labor; but before the close of the works a special siding was connected with the Pennsylvania railroad opposite the Bamford works.

The Last Company.

The mine farm, after 1877, for about six years, was in charge of David Uren, an intelligent Welshman, now deceased, and whose body is interred in Woodward Hill Cemetery, this city. As may be supposed, the fine buildings and costly machinery naturally depreciated in value from non-usage. In this condition the Lehigh Zinc and Iron Company, of Bethlehem, Pa., leased the mines for a period of ten years, from April, 1883. The terms of the lease were that the owners of the mines were to receive a royalty of \$1 per ton on all ore taken from these mines, and \$1.50 on all ores that came from other mines elsewhere that were to be cleaned at the concentrating works of this place.

In June of that year this same company leased the Widow Kauffman

property, in East Hempfield township; but little was accomplished there, more than taking some small lots of zinc ore from the place.

Under the skillful superintendency of Captain P. O. Dwyer, the Bamford works were operated until October of the same year, when, owing to innumerable difficulties with the machinery (which had become almost valueless, through some years of idleness), and on account of there not being enough mineral on hand to make it pay, the mines and works were again closed late in the fall of 1883. Mr. Dwyer left for his home, in Friedensville, Lehigh county. Mr. Heckscher, a member of the Lehigh Company, then came on and had most of the loose articles of the Bamford mines removed and shipped to his smelting works at Bethlehem.

In a disagreement on the fulfillment of a contract, the Messrs. Bamford, in November, 1885, secured a verdict in their favor in a suit with the Lehigh Zinc and Iron Company, in the United States Court at New York. This provided for the payment of \$1,000 per year in case of further non-usage of the mines, or for the full carrying out of the contract if the works were operated.

The buildings around the old zinc mines are now in a state of desolation and decay. As early as 1884 and 1885 there were large cave-ins at the main shaft and open cuts of the mines; and water now fills the various pits to within ten feet or less from the surface. The main shaft having been 110 to 120 feet in depth from the level, one can easily comprehend the great body of water that had to be pumped from these mines. During this operation, a large steam-pump, capable of hoisting a barrel of water at a stroke, was one of the sights to be seen there.

Bamfordville (which name, by the way, was first given to it by the writer) sprang up in the vicinity of these works. It is rather a quiet village now. It is in the heart of a thrifty tobacco region. Faint hopes are entertained by some of its steadfast settlers that brighter days are ahead for the village. Probably a thorough search underground may yet bring forth a vein or veins of purer zinc-bearing rock. It is the belief of the writer that the frequent evidences of zinc, lead and traces of silver along the meadows of Snapper creek, cropping out, as they do, in various farms toward the south of East Petersburg, may sometime result in starting an industry more profitable than it was to the Bamford brothers. The main formation of the zinc belt, no doubt, has not yet been fully discovered.

In closing the first part of this sketch, I would add that about four years since, in November, 1900, arrangements were made toward reopening and operating the zinc belt in East Hempfield township, from Bamfordville to near Shreiner's station, above Dillerville. The firm of Longenbach & Morton, zinc smelters, of Canton, Ohio, secured mining leases for several months, with the intention of placing machinery there and starting operations. This firm operates fifteen mines in Kentucky and two in Joplin, Missouri. Their plan was, if the ore was plentiful enough they would sink fifteen shafts, making an output of 3,000 tons per day. Among the land leased at the time were the farms of D. Grube, F. Kreider and P. Swarr, the whole covering a distance of one and three-quarter miles. They announced their intention of working the area leased to its full extent; yet I have never been able to find out what progress they made.

Silica Sand.

In West Hempfield township, near the East Hempfield line, on Chestnut Hill, about five miles west of Lancaster, near the Marietta turnpike, Jacob S. Trout discovered a valuable bed of silica or "fire" sand, in 1870. Experiments with this sand demonstrated its superior value in the construction of furnaces and the manufacture of steel and iron. Mr. Trout shortly after opened a large trade for his sand, and regularly shipped from Landisville station many carloads of it to the great works of the Pennsylvania Steel Company, at Steelton, and other steel and iron works in Central Pennsylvania.

The writer remembers the familiar teams of Mr. Trout. Two of these were constantly hauling the sand from his banks to the Pennsylvania and Reading and Columbia railroads, in order to supply the great demand. These specially-built wagons were of large size and had correspondingly ample wheels of great girth, banded with broad tires. These wheels were especially noticeable to one used to the ordinary wheels of a four-horse wagon; and they were very necessary, indeed, in winter time, to pass over and through the sticky clay roads then existing in East Hempfield, before reaching the Harrisburg turnpike. Mr. Trout at that time furnished about ten thousand tons annually to different iron manufacturers.

Since the death of Jacob S. Trout, in the year 1893, his son, J. M. Trout (who resides in the village of Landisville at the present time), has taken up the silica sand business and has been shipping thousands of tons to different iron workers, as far West as Chicago, Ill., and East to Massachusetts. This tract contains about eleven acres, and has an inexhaustible sup-

ply of soft, white sand, which contains about ninety-six per cent. silica, and also hard rock with the same percentage of silica.

Henry Hall also owned a somewhat smaller silica sand deposit, near Mr. Trout's, and operated it after the latter's discovery. Mr. Hall resided in East Hempfield township. He is now deceased.

About six or seven years ago, C. H. Nolt (now a leaf tobacco dealer, of Lancaster city), who formerly resided at his father's mill, East Hempfield township, took up a tract of land, containing silica sand, adjoining Mr. Trout's. His sand analyzes from 95 to 98 per cent. silica; and he ships about 4,000 tons annually from Silver Spring station, on the Reading and Columbia railroad, and at Charles' siding, on the Pennsylvania railroad. The supply mostly goes to iron works in the States of New York, Ohio, New Jersey, and the Dominion of Canada.

Another party, the Detwiler Company, operates a tract owned by Jacob Spangler, containing a similar grade of silica sand, near Ironville, and the Longenecker Brothers pursue the same operations at Florinel, near the Brick Tavern. These various sand deposits cover about one hundred acres, yet crop out in veins at intervals all the way from Kinderhook, West Hempfield township, Lancaster county, to Valley Forge, Chester county, Pa.

This sort of sand is very beautiful to anyone accustomed to the common river sand used in making mortar for building walls. This latter sand is of a brownish-grayish cast, while the silica sand is nearly white, with traces of light yellow.

River Sand Industry.

In this connection it seems well to treat of the sand obtained from the

river at Columbia, bordering as it does on West Hempfield township. The Pennsylvania railroad is the largest consumer, and stores hundreds of tons away, to be shipped to other points, daily. This company has a large, three-story building devoted entirely to the process of cleaning and drying the little yellow particles. The sand is shipped along the entire division to the different round-houses and watering stations, where it is placed on all engines. The box for carrying the sand on a locomotive is situated upon the top of the boiler in front of the bell, is circular in shape and about two feet high. Pipes on either side run from the sand box to within an inch of the rail, directly in front of the large driving wheels. The engineer can at will cause a fine stream of sand to fall upon the rail, thus preventing the engine from slipping while ascending grades, in ~~w~~ weather, or when starting with heavy trains. The sand gathered at Columbia is said to be the best to be had for this purpose, as it is of a hard, gritty nature. This sand is always in great demand for building, and immense quantities are shipped to distant cities. Large lots are also stored for winter sales by those engaged in the business, giving employment to many persons.

Few people not acquainted with the facts would have any idea to what proportions this industry has grown within recent years. About twenty years ago a few sand flats could supply the demand without much exertion—barring the hard work of procuring it. Sand was then secured by means of long, scoop-shovels, let down to the bottom of the river, and the handle then fastened to a small chain, which would give the operator a leverage on the shovel, thus being able to force the latter into the bed of sand, after

which it would be laboriously hauled to the surface, and the contents placed upon the flat. This method has been completely changed, and steam now does the work better, in a modern way. Steam dredgers are now used, which have large numbers of buckets, arranged upon endless chains, which are let down to the sand-beds. The engines are then started, and the buckets begin their screeching journey. A large screen is placed over the sand flats and by this means most of the dirt, chips, leaves, etc., which may be amongst it, are removed.

The river sand which reaches our Lancaster builders and contractors contains a great deal of fine anthracite coal. Of course, no amount of screening rids the sand of the coal, which is washed down the Susquehanna from the coal regions. A curious fact is that not a few tons of larger coal were taken from the river above Marietta during the strike period of 1902, the only cost being the labor of dredging or picking it up and hauling the black, smooth-worn beauties to some nearby house.

The Ochre Banks.

One seldom hears of ochre as being found in Lancaster county, yet for many years these pigments for painting have been known to exist in considerable quantity near Silver Spring, in West Hempfield township.

Ochre is a variety of fine clay, containing iron; and this accounts for iron ore being mined not far from the ochre banks at that locality. The ochre found in these mines is of various attractive colors—yellow, drab, red and terra alba, or pure white; the yellow is found in large banks, the red and white run in veins. The yellow is in great demand; it is largely used in the manufacture of oilcloth, and in the groundwork for wall paper

(which is now printed quite extensively in York, our neighbor city); it is sold wholesale, after being thoroughly freed from sand, dried and put in barrels (of about 300 pounds each), to parties in New York and Philadelphia, at about \$10 per ton. The other colors are used for paints, being, of course, more costly.

The supply at the West Hempfield mines was supposed to be practically unlimited about a score of years since. At that time, the exact date being January 1, 1882, John and Ferdinand Weber leased, for ten years, from the Chickies Iron Company, their engine, machinery, six acres of land, and right to take ochre from the mines of the said company. The Webers erected a large, L-shaped building, the wings of which were 60x26 and 24x18 feet, additional shedding, and put in iron-ore washers, vats and tanks; but, before the business could be made profitable, the end of their financial string was reached, and late in the fall of 1883 the property and lease were purchased by W. F. Beyer, Esq., and John M. Davidson, of Lancaster city, who, having taken in Samuel Davidson, formed a partnership to do business as the Conestoga Dry Color and Paint Company.

They began operations the following spring, it is stated, with about a dozen employes. A large and annoying cave-in occurred at these mines just as everything was ready to begin shipping the ochre. It took about nine weeks to repair the injury thus occasioned to the company's operations. Their shipments were then made to Philadelphia, where the mineral was utilized principally by oilcloth manufacturers for coloring purposes. There were a number of productive veins in this mine, the largest being over two hundred feet long and supposed to be fully thirty feet in thickness; yet,

strange to say, the expense of the plant was greater than the profits, and the place was abandoned.

In January, 1885, a charter was granted to the Conestoga Ochre Company, of Lancaster. What connection this had to the Silver Spring mine, if any, Mr. Davidson was unable to state, when interviewed.

Iron Ores and Works.

The mere mention of iron at once brings forth the name of Grubb. Peter Grubb, the ancestor of the Grubb family of Lancaster, was the pioneer of the iron ore industry in this State, having discovered the extensive beds of this mineral at Cornwall, Lebanon county, which he operated about 1734. Peter Grubb, of the second generation, married a Lancaster lady, Mary Shippen Burd, and in that way the beginning was made for a continual residence of part of this famous family in our midst. Henry Bates Grubb was the second child by this union, and Clement B. Grubb happened to be the second son of Henry Bates; while Charles Brooke Grubb carries out the coincidence of being the second son of the family having a home in Lancaster.

Clement B. Grubb continued the business of his father at Mount Hope, Mount Vernon and other charcoal furnaces, while he began the new anthracite St. Charles furnace, in Columbia, and the Henry Clay furnace, near there, which he re-built. Mr. Grubb was at one time the sole owner of the Chestnut Hill ore banks, in West Hempfield township, and was also one of the owners of the Cornwall field.

A Mr. Boyer owned the Chestnut Hill ore banks even prior to Mr. Grubb, as it was actually opened by the former about sixty-five or sixty-seven years ago. In changing hands, this property came into possession of

Clement B. Grubb, who developed the place considerably.

At the present period, Charles B. Grubb owns the Chestnut Hill property, of which he was a partner while his father was living; and he has interests both in Lebanon and Lancaster counties. The mine, as now worked, covers an area of about ten acres of ground. The depth of it is 110 feet. The ore is shipped to the Reading Ore Company, and amounts to about 800 tons monthly. The present force of employes is nearly fifty men. These ore banks have been the scenes of greater activity at times in the past, and are subject to fluctuations of the iron trade.

The Chestnut Hill Iron Ore Company operated one of these banks in the early eighties.

The old ore mine near the Grubb property, south of Silver Spring, once owned by a New York company, is now in possession of H. M. North, Esq., of Columbia.

An iron ore pit was opened about 1865-7 on the farm of David Baker, Sr., by him and Peter Summy, in East Hempfield township, and afterward operated by Henry Watts & Son, Marietta. This for a time was the scene of considerable activity. The place was finally abandoned for mining.

Prospecting For Iron.

Evidences of iron ore crop out in many parts of the Hempfields, and at various times pits have been dug to ascertain their commercial value. During some explorations for zinc near Bamfordville, in 1882 or 1883, strong traces of iron were found in a number of narrow holes sunk on the hillside of the Hoffman farm. The mineral was not, however, in sufficient quantity to continue the search.

In the spring of 1884 a number of holes were drilled for iron ore upon the Shirk property, adjoining the old Shirk mines, in West Hempfield township, and at other nearby places. I am unable to state what became of this prospecting.

Among the iron furnaces in the vicinity of the Hempfields, the Cordelia, at Ironville, was, perhaps, the best known, and operated more than twenty-five years ago. Isaac McHose, of Reading, owned this plant in 1884. The Chickies Iron Company also ran a puddling mill, near Columbia, in 1884.

One of the early rolling mills of the county was located at Rohrerstown, and was in operation in 1868-9, and at various times afterward. One of its owners, about ten years afterward, was Anthony J. Hindermyer, who died recently, in March, 1904. Mr. Hindermyer had the distinction of being for many years general manager of the ore mines of C. B. Grubb, and of the St. Charles and Henry Clay furnaces, near Columbia. Mr. Hindermyer had another distinction, as a matter of history, of applying the match, after furnishing the oil to saturate the woodwork of the old Columbia bridge, in order to prevent the Confederate army from crossing the river. Mr. Hindermyer lost an arm and the sight of an eye while operating the Rohrerstown rolling mill.

To fully trace the history of the great furnaces in Columbia and Marietta would in itself occupy a large paper—too large for the present occasion. The familiar names of Halderman, Watts, Musselman, etc., are no longer seen at the once busy places above Chickies, as the dismantling of those famous furnaces was accomplished about a-half dozen years ago. Mr. John K. Miller, of Maytown, how-

ever, has preserved some pretty photographs of that place during the dismantling; some of these pictures are on stereoscopic cards, and can naturally be obtained.

D. B. LANDIS.

Note.—In the preparation of this sketch, the writer has frequently referred to the files of his own paper, the Landisville Vigil, 1883-5; to his correspondence afterward in the Lancaster Inquirer, and to other notes kept by him. He is also indebted to Miss Ida Baker, Silver Spring; J. M. Trout, Landisville; C. H. Nolt, Lancaster, and a few local biographies for general information.

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