About Doe Run

History | Mining | Smelting | Recycling | Subsidiaries

On March 15, 1864, the St. Joseph Lead Company was organized by a New York group that had bought a large tract of land in southeast Missouri (USGS Homepage) noted for lead deposits. The first mine was an eight-foot deep trench at Bonne Terre. The lead was removed with hand-operated jigs and smelted in a charcoal oven with a sloping hearth. In the first two years, the company produced 260,126 lbs. of lead. Today, Doe Run can produce the same amount of lead in about five hours.

By 1869, St. Joe had brought in a diamond drill like those used in the Vermont granite quarries. This allowed for systematic searches for ore, which revealed tremendous lead ore reserves. It also marked the beginning of underground mining instead of the previous open-trench methods.

Mules provided the power for early-day underground haulage.

In 1886, the trustees of St. Joe gave approval to the local management to form a small company - The Doe Run Lead Company - primarily to acquire a tract of 150 mining acres on Doe Run Creek. Around 1890, Doe Run took options on several tracts of land in the vicinity of Flat River, and began an aggressive drilling campaign. The company hit a rich deposit of ore 150 feet deeper than the older mines, a find that resulted in the development of the Flat River Lead District.

From this beginning grew one of the world's largest lead producers. The company started construction on a lead smelter in 1890. Two years later, the Herculaneum, Mo. lead smelter began operation. It has been substantially reconstructed, but the smelter has been in continuous operation since that time, processing lead ore concentrates for company-owned mining properties.

The famous St. Joe Shovel transformed extraction and ore loading efficiency in the 1920s.

In the early days of St. Joe, mules were used to provide the power for hauling ore. In the early 1900s, electric locomotives replaced the mules. Air-powered percussion drills used to make holes for explosives replaced the previous man-powered punchers. Rod mills and new shaking tables, replacing the old jib tables and allowing for small particles of lead to be recovered, were coming on line.

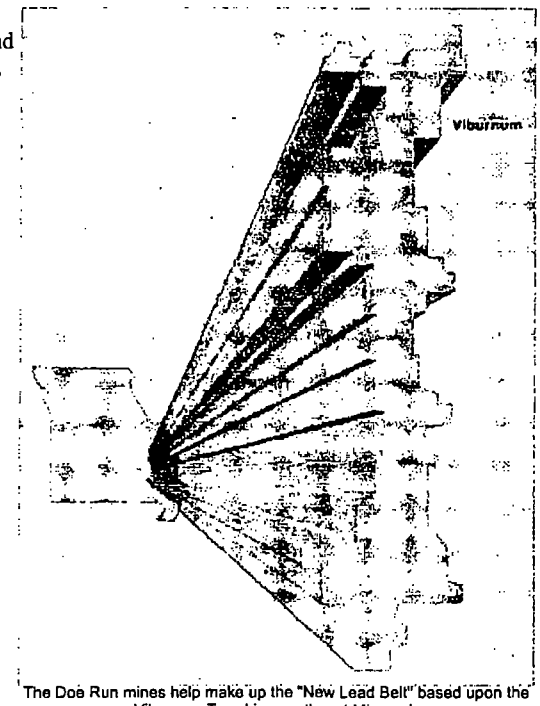
A mechanical loader on crawler treads, the famous St. Joe Shovel, began its 40-year career in 1920 as the main underground extraction and loading tool.

40272714
Superfund

History

In 1923, a 250-mile underground railroad was completed, eliminating expensive surface hauls and centralizing hoisting operations. At the same time, St. Joe introduced the roof bolt, still the mining industry's standard method of securing overhead rock.

In the 1950s, the mineral content of the Bonne Terre Lead Belt reached a low 2% lead. Surface drilling to locate more deposits was intensified. This resulted in defining what is today one of the most productive lead deposits, the Viburnum Trend, also known as the "New Lead Belt." Lead ore with associated zinc and copper are still being mined here today.



The Doe Run mines help make up the "New Lead Belt" based upon the Viburnum Trend in sountheast Missouri.

Homestake Mining Company (Homestake Mining Company Homepage) joined American Metal Climax in Missouri (AMAX) to explore lead-zinc ore bodies in the Viburnum Trend in 1961. They formed a joint venture in 1965 to develop an area. Homestake also acquired a 50-percent stake in the Missouri Lead Smelting Company. In 1969, the U.S.'s newest lead smelter in 40 years was started up. The Buick Mine and Mill came into operation the next year. Homestake purchased AMAX's 50-percent interest in May of 1986, and completely owned the complex. This set the stage for the creation of The Doe Run Company on Nov. 1, 1986, 100 years after the formation of the original Doe Run Lead Company. With six mines, and four mills, one primary smelter, one lead recycling plant and two lead fabrication plants (Fabricated Products, Inc.), Doe Run is the world's premier lead producer.

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DEPARTMENT OF THE INTERIOR

BULLETIN

OF THE

UNITED STATES

GEOLOGICAL SURVEY

No. 132

WASHINGTON
GOVERNMENT PRINTING OFFICE
1896

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UNITED STATES GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

THE DISSEMINATED LEAD ORES OF SOUTHEASTERN MISSOURI

BY

ARTHUR WINSLOW

WASHINGTON
GOVERNMENT PRINTING OFFICE
1896

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The Derby Lead Company's shaft is now being sunk, and is about 120 feet deep. The intention is to sink it to a depth of 490 feet, which will be about 40 feet into the ore body. The sandstone is here at a depth of about 540 feet. Most of the lead ore encountered in the drill holes was through the lower 100 feet.

The Crawley shaft of the St. Joseph Lead Company is 365 feet deep, at which depth the sandstone was entered. An upper run of ore was encountered at 283 feet, and a drift about 100 feet long and 40 feet high has been driven in a northeasterly direction. A lower run of ore is at 360 feet, and is about 20 feet thick; the drift at this level is only about 30 feet long. A bed of pyritiferous limestone nearly 10 feet thick was passed through at a depth of about 173 feet. Very little pyrite is associated with the galena, however. A crevice, or "channel," runs along the west side of the upper ore body parallel to the course of the upper drift. The output of the shaft is shipped directly to Bonne Terre for treatment, and is included in the productions of that mine.

The Donnelly Lead Company's shaft is 310 feet deep, and the sandstone is struck at about 320 feet. The run of ore, which is at the bottom of the shaft, is about 10 feet thick. A drift follows this in a northeasterly direction for about 260 feet; a good deal of the cobalt-nickel sulphide, linnæite, was found in this drift. The ground is traversed by a number of crevices running a little north of east across the drift. At a depth of 125 feet an upper and smaller run of ore was passed through, in which a good deal of pyrite was found. The mine is equipped with a small concentrating mill, and the product has been hauled in wagons to Flat River. Only a small amount has been produced, however—not more than 50 tons of concentrates.

The Leadington Lead Company's shaft is 350 feet deep, and extends 20 feet into the sandstone. About 250 feet of drift has been driven at the bottom. The ore body varies from 8 to 25 feet in thickness. The mine is not now operated. It is equipped with a concentrating mill, from which there were hauled in 1894 about 350 tons of concentrates, and this is the total to date.

DOE RUN MINE.

The Doe Run Lead Company's mine at Doe Run is now almost idle. It was operated by two shafts, 47 and 110 feet deep, respectively. The ore was found principally between the depths of 50 and 90 feet. It lies very near the contact of the St. Joseph limestone with the Archean granite, and surfaces of the latter are exposed in the mine workings. The production of the Doe Run Company in 1894 amounted to 4,203 tons of concentrates, which yield about 65 per cent of lead. Only about one-fourth of this was from the mine at Doe Run, the remaining three-fourths coming from the company's shafts on Flat River. The total production of the company to the end of 1894 amounted to 21,300 tons of lead, of which nearly 5,000 tons came from the Flat River shafts.

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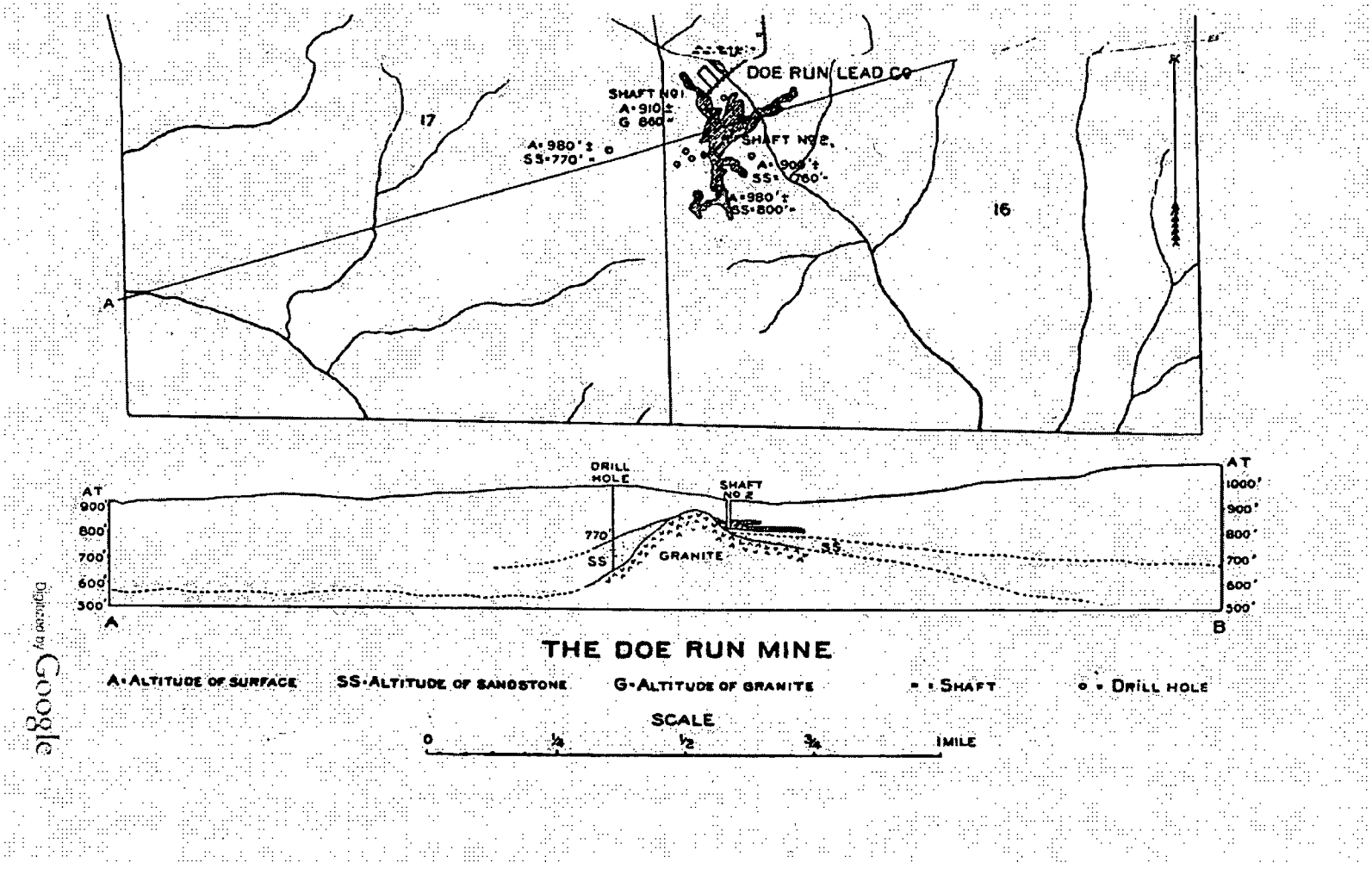

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DEPARTMENT OF THE INTERIOR

UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

MINERAL RESOURCES

OF THE

UNITED STATES

CALENDAR YEAR

1910

PART I—METALS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

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made. On the tract there is a small Scotch-hearth lead furnace which has not been operated for several years, and an oven in which the zinc carbonate ore is calcined before shipment. The land was prospected during 1910 by a number of diamond drill holes. The following section of drill hole No. 1, about three-fourths of a mile nearly due south of Valle mines station, as interpreted by the Missouri Bureau of Geology and Mines, has been furnished by the Valle Mining Co:[1]

Section of drill hole No. 1, Valle mines, Jefferson County, Mo.

	Feet.
Surface	9
Potosi	227
Derby and Doe Run	94
Davis shale	170
Bonneterre	240
Total depth	740

St. Francois County.—The mines of the St. Joseph Lead Co. are all but one located at Bonne Terre and Leadwood, the exception being shaft No. 8, which is near Flat River Station. There were 9 shafts in operation in 1910 and the production was greater than ever before. These mines are all upon spurs of the Mississippi River & Bonne Terre Railway, a subsidiary organization, and are thus connected with the mills and smelter of the company. The two concentrating plants, the Hoffman mill at Leadwood and the St. Joseph mill at Bonne Terre, have a combined capacity of 3,000 tons of crude ore in 24 hours. The Hoffman mill is modern, but the St. Joseph mill is of an older type. It is equipped with Parsons and Harz jigs and cushion tables. The crushing department was electrified late in the year and eventually the mill will be electrically driven throughout and otherwise remodeled by the substitution of Hancock jigs and Wilfley tables. The new producer-gas engine electric power and compressor plant is planned with space for the installation of sufficient equipment to drive the mines and mill from the central plant. Underground haulage is by means of compressed air locomotives. A drift was started from the mine at No. 7 shaft, 1 mile southwest of Bonne Terre, to connect with the main underground workings at Bonne Terre, with the object of establishing underground haulage and abandoning the independent hoisting and pumping plant at No. 7. The smelter at Herculaneum, on Mississippi River near the northern terminus of the Mississippi River & Bonne Terre Railway, is equipped with 4 large Dwight & Lloyd sintering machines, 28 Savelsberg roasting and sintering pots, and 5 blast furnaces, with appropriate drossing kettles, etc.

The Doe Run Lead Co.'s mines are at Doe Run and near Flat River, except the Mitchell shaft, which is about 3 miles west of Flat River. The 3 concentrating plants have a combined capacity of 2,850 tons of crude ore per day of 24 hours. The older mill at Esther is not now operated, all concentration being made on the mill at Doe Run or on the new steel electrically driven mill near Elvins. This new mill is built in 4 sections of 500 tons capacity each. It is equipped with dry crushing machinery, classifiers, Harz and Hancock jigs, Huntington

[1] Letter dated July 22, 1911.

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mills, Wilfley tables, and Frue vanners. Several hundred tons of copper concentrates were shipped from the Doe Run mines in 1910, recovered as middlings in concentrating the lead. Besides copper the concentrates contained nickel, cobalt, and a little silver, but these were not recovered in smelting the copper. The producer-gas engine electric power plant at Central is a duplicate of the St. Joseph plant, except that it lacks the compressors. Haulage in the widely separated mines of the Doe Run Co. is by mules. Shaft No. 10 was completed at Esther and No. 11 was started at Doe Run. Seven other shafts were in operation and the production of concentrates was largely increased.

The Desloge Consolidated Lead Co. in 1910 operated 3 shafts, 2 of which are each 280 feet and the other 500 feet in depth. Two of the shafts are near the town of Desloge, but No. 4 shaft is near Leadwood. During 1910 the concentrating plant was remodeled, and is now equipped with 3 Hancock jigs, 30 Wilfley tables, 10 Frue vanners, and appropriate rolls and Chili mills. The capacity is 1,200 tons per day of 24 hours. A large quantity of lead concentrates was produced, a portion of which was smelted in the company's smelter near the concentrating plant. The smelter is equipped with 4 Flintshire-Tarnowitz reverberatory furnaces, 2 hand-rabbling reverberatory roasting furnaces, and 1 small cupola blast furnace, with drossing kettles, etc. In recent years none of the furnaces, except 2 of the Flintshire furnaces, has been worked, the "gray" slag being sold to other smelters.

The St. Louis Smelting & Refining Co. has its mines in the vicinity of the village of St. Francois, about 1 mile north of Flat River. Four shafts, ranging from 328 feet to 407 feet in depth, were in operation in 1910. A new shaft, No. 6, one-fourth mile west of Flat River, was sunk during 1910. The bottom of the ore was reached at 540 feet and the Lamotte sandstone at 560 feet. The concentrating plant is modern, having a capacity of 1,600 tons per day of 24 hours and being equipped with Hancock jigs, Richards classifiers, Huntington mills, Overstrom and canvas tables, Frue vanners, slime and settling tanks. A central steam-power plant drives air compressors and electric generators. The mill, hoists, and pumps are operated by electricity, as well as the underground haulage and the electric trams for handling the ore from the shafts to the mill. This company also operates a lead smelter and refinery at Collinsville, and the lead concentrates produced by the mines were smelted at that plant.

The Federal Lead Co. operated 7 shafts during the first half of the year and 5 shafts during the last half. These mines are in the vicinity of Flat River, Central, and Elvins. The average depth of mining is about 400 feet. A large increase was made in the production of lead concentrates in 1910. There are 2 concentrating plants, one of 1,200 tons and the other of 3,600 tons rated capacity, but really developing 4,000 tons capacity per day of 24 hours. The smaller mill was idle in 1910, but the larger one was operated continuously. It is of best modern type, with a full complement of crushing machinery, Hancock jigs, Richards classifiers, Wilfley tables, Frue vanners, and slime separators. These are arranged in 6 units. Separate from the mill there is a series of slime settling tanks, the pulp from which is treated on canvas slime tables. Power for mining and milling is furnished from a central power plant which adjoins the large mill, and is

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NATIONAL REPORTER SYSTEM — STATE SERIES

THE

SOUTHWESTERN REPORTER

VOLUME 223

PERMANENT EDITION

COMPRISING ALL THE CURRENT DECISIONS OF THE

SUPREME AND APPELLATE COURTS OF ARKANSAS
KENTUCKY, MISSOURI, TENNESSEE
AND TEXAS

WITH KEY-NUMBER ANNOTATIONS

AUGUST 25 — OCTOBER 6, 1920

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Walter B. Douglas and Alfred J. Strobans, both of St. Louis, for appellant.

Muench, Walther & Muench, of St. Louis, for respondents.

WILLIAMS, P. J. (after stating the facts as above). The trial court decided this case on the theory that plaintiff had by his conduct become estopped to now attack the validity of the deed in question. After carefully reviewing and weighing the entire evidence, we find that the greater weight of the evidence is to the effect that, at the time the plaintiff and two of his sisters agreed to a friendly partition of the real estate left them by their father, plaintiff then knew that his deceased mother had made the deed now in question, and that he asked and received the most valuable one-third of the property partitioned, by his express promise and upon the understanding that he would forego his right to bring a suit to contest the validity of the deed in question.

Appellant insists that his agreement not to contest the validity of the deed was within the statute of frauds, and could not be made the basis of estoppel. We are unable to agree with this contention. Whether the agreement which appellant made was one falling within the terms of the statute of frauds we need not determine, because unnecessary to a decision of the case. Even though it be considered arguendo that it was such a contract, it has been fully performed, the consideration has passed, and the respondents are in possession. Under such circumstances, equity would refuse to give the plaintiff any relief. In the case of Rosenberger v. Jones, 118 Mo. 559, loc. cit. 566, 24 S. W. 203, 204, Black, P. J., speaking for the court said:

"There is no doubt the statute of frauds applies to equitable as well as legal estates, and as a rule equitable estates can only be assigned by note or memorandum in writing. But as said by Judge Bliss in Grumley v. Webb, 48 Mo. 586: 'One who sells an equitable interest in land, receives the consideration, and yields possession *will not be permitted* to say afterwards that the assignment was not in writing.'" (Italics ours.)

In the early case of Taylor v. Zepp, 14 Mo. 482, 55 Am. Dec. 113, one of the leading cases in this state upon the subject of estoppel in pais and its relation to the statute of frauds, held in effect the statute of frauds did not apply to those cases where the doctrine of equitable estoppel or estoppel in pais was applicable. Any other view would take from equity one of its strongest prerogatives; e. g., its power to prevent the consummation of those frauds which, if not sanctioned by the cold letter of the law, are by it not prohibited.

The main object sought to be accomplished by the statute of frauds is the prevention of frauds. One of the very wholesome uses of equitable estoppel is to prevent the statute of frauds itself from being used as a fortification behind which fraud may be successfully perpetrated. While at first blush it might appear that the doctrine of equitable estoppel conflicts with the statute of frauds, yet upon closer inspection it clearly appears that the conflict is only a matter of appearance, a mere matter of form, and not of substance, and, like the mirage of the desert, entirely disappears upon closer inspection. There is no real conflict in substance or principle, but the one might be said to supplement the other —each expending its proper force and energy against the common enemy, fraud.

We are of the opinion that the doctrine of estoppel in pais is entirely applicable to the facts of this case, and that the learned chancellor was correct in so holding. Since the above conclusion disposes of the whole case, the discussion of other points mentioned in appellant's brief becomes unnecessary.

The judgment is affirmed.

All concur.

In re DOE RUN LEAD CO. DOE RUN LEAD CO. et al. v. MAYNARD et al. SAME v. HOLMES et al. (Nos. 20601, 20602.)

(Supreme Court of Missouri, in Banc. June 19, 1920. Motion for Rehearing Denied July 12, 1920.)

1. Appeal and error ⟹77(1) — Appeal lies from decree dissolving corporation in "civil action," it being "final determination."

Under Rev. St. 1909, §§ 1727, 2038, 2040, 2090, an appeal lies on behalf of aggrieved objecting stockholders to the Supreme Court from the circuit court in proceedings for dissolution of a corporation brought under sections 2996–3000; the dissolution proceeding being a "civil action," and the decree being a "final determination" of the rights of the parties.

[Ed. Note.—For other definitions, see Words and Phrases, First and Second Series, Civil Action; Final Determination.]

2. Action ⟹25(2)—Dissolution proceeding as "action in equity."

Proceeding for dissolution of corporation under Rev. St. 1909, §§ 2996–3000, in view of the nature of the relief sought and the issues tendered, an estoppel in pais being pleaded, *held* an "action in equity."

[Ed. Note.—For other definitions, see Words and Phrases, Action in Equity.]

3. Corporations ⟹614(1) — Minority stockholders not estopped to object to dissolution by having stood by with notice.

Minority stockholders objecting to dissolution of the company under Rev. St. 1909, §§ 2996–3000, *held* not estopped by having stood by with full knowledge of what was intended,

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and of the steps that were being taken, an estoppel in pais not necessarily arising from notice and inaction alone; to make good a plea of estoppel, it must be alleged and proved the pleader has been misled to his hurt.

4. Eminent domain ⟹62—Compelling minority stockholders to accept stock in other company or to sell on merger and dissolution is taking property for private use.

Under Const. art. 2, § 20, providing that private property cannot be taken for private use with or without compensation unless by consent, minority stockholders in corporation, proposed to be merged with another company and itself dissolved under Rev. St. 1909, §§ 2996–3000, cannot be compelled to accept propositions that they become stockholders on fair terms in the absorbing company, or to receive the fair value of their stock.

5. Corporations ⟹610(2)—Dissolution on assent of two-thirds of stock only in good faith for benefit of all.

A corporation cannot be dissolved under Rev. St. 1909, §§ 2996–3000, on agreement of two-thirds in value of its stock, unless such two-thirds of the stockholders determine to dissolve in good faith for the benefit of all corporators.

6. Corporations ⟹581—Consolidation of mining corporations by purchase of stock and dissolution of one illegal.

Consolidation of Missouri mining corporations by one buying all of the stock of another, and then dissolving it under Rev. St. 1909, §§ 2996–3000, *held* illegal and contrary to public policy as declared in sections 3360, 3362.

7. Corporations ⟹690—Foreign corporation cannot consolidate with domestic corporation by acquiring stock and dissolving it.

In view of Rev. St. 1909, §§ 3360, 3362, and particularly section 3037, a foreign corporation cannot consolidate with a Missouri corporation in a proceeding in the Missouri courts under sections 2996–3000 to dissolve the Missouri corporation after acquiring all its stock, particularly when neither of them is engaged solely in manufacturing.

8. Corporations ⟹592½—Statutes as to "dissolution" contemplate one in fact and not merely acquisition of one company by another.

Rev. St. 1909, §§ 2996–3000, relative to the dissolution of corporations, contemplate a dissolution in fact as well as in name, and not a mere acquisition of the dissolved corporation by another; "dissolution" being used in its ordinary meaning of an act or process of dissolving, or breaking up, separation into component parts, disorganization.

[Ed. Note.—For other definitions, see Words and Phrases, First and Second Series, Dissolution.]

Appeal from Circuit Court, St. Francois County; Peter Huck, Judge.

In the matter of the dissolution of the Doe Run Lead Company, wherein Samuel R. Maynard and Robert Holmes, objecting stockholders, and the St. Joseph Lead Company, filed answers. From a decree of dissolution, the stockholders separately appeal; the appeals being consolidated. Reversed.

This is a proceeding by the Doe Run Lead Company, incorporated, for dissolution under the provisions of sections 2996 to 3000, inclusive, of the Revised Statutes of Missouri of 1909. Samuel R. Maynard and Robert Holmes, objecting stockholders, and the St. Joseph Lead Company, filed answers. Upon a hearing below, a decree of dissolution was entered, and from that decree Samuel R. Maynard and Robert Holmes have duly, but separately, appealed. The two appeals have been consolidated, however, and will be decided as one.

The pleadings are voluminous. The evidence covers some 1,200 pages. The property interests involved are large. The questions presented for our determination are numerous, and many of them are important. The petition, covering 24 pages, exclusive of exhibits, avers in substance, omitting formal allegations, that a resolution authorizing the filing of this proceeding for the dissolution of petitioner was duly adopted by the holders of more than two-thirds of the capital stock of the petitioning corporation; that, for reasons covering some 18 printed pages, it is to the best interests of its stockholders that the properties of the petitioner shall be consolidated with the properties of the St. Joseph Lead Mining Company, incorporated, which is a corporation engaged in the same line of business in the same locality as petitioner, and is a party to these actions; and that those stockholders of the petitioner, "*who now desire a dissolution of said company, also desire that all the property and business of the Doe Run Lead Company be first sold*" to the St. Joseph Lead Company; and it is then averred that they (that is, the stockholders of petitioner who desire that its properties be sold to the St. Joseph Lead Company) also "*desire that said sale and transfer be made upon a basis which will fairly and fully compensate such minority stockholders of the Doe Run Lead Company as may object to such sale, transfer, and dissolution, by liquidating their respective interests in the Doe Run Lead Company, either in shares of stock of the St. Joseph Lead Company or in cash,*" *but that (in substance), if that arrangement cannot be made, then that the properties of petitioner be sold at public sale.* (The italics are ours.) The prayer is for a decree of dissolution and for an order directing the proper officials of petitioner to take charge of its assets as trustees, as provided by section 2995 of the Revised Statutes of Missouri of 1909, and for such further orders as may be appropriate. A demurrer to this petition, based upon constitutional and various other grounds, including that of a failure

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to state facts sufficient to constitute a cause of action, was overruled, and, as above stated, defendants Maynard, Holmes, and the St. Joseph Lead Company filed answers.

The answer of appellant Maynard consisted of a general denial and the following affirmative defenses:

(1) That the dissolution had not been authorized by stockholders holding and entitled to vote two-thirds of the value of all the shares of stock.

(2) That the defendant the St. Joseph Lead Company claimed to own more than two-thirds of all the shares of stock in a Missouri corporation, and that its attempt to do so was in violation of the laws and public policy of this state.

(3) That the joint committee of stockholders which had been appointed to arrange the terms of the consolidation of the two corporations had not acted in good faith, but had been controlled by the St. Joseph Company.

(4) That the resolution authorizing the dissolution is void because in violation of the laws of this state, in that it contemplated the purchase by the Doe Run Lead Company of its own capital stock.

(5) That the resolution of dissolution had been abandoned and had not been accepted by the St. Joseph Company, and that neither of the two corporations had attempted to proceed under or in accordance with the resolution for more than three years after the adoption thereof, and that conditions in the meantime had so changed as to make the resolution inapplicable.

(6) That the resolution was illegal and void because the owners of a majority of the capital stock of the Doe Run Company had been coerced into consenting thereto by certain persons who were in control of the St. Joseph Company.

(7) That the petitioner cannot maintain an action under the provisions of sections 2996 to 3000, inclusive, of the Revised Statutes of Missouri of 1909, because the same were enacted long subsequent to the incorporation of the petitioner, and are not retroactive in their operation, and that to permit a dissolution to be decreed under the provisions of said sections would be in violation of certain sections named of the Constitution of the state of Missouri, and of certain amendments to the Constitution of the United States, particularly the due process of law provision, and those relating to taking private property for private use, and impairing the obligations of a contract.

(8) That the resolution authorizing a dissolution of the petitioner was not legally adopted, for the reason that the St. Joseph Company could not vote the shares of stock it claimed to own, and that to so construe section 2996, supra, as to permit such stock to be voted, would be in violation of sections 5 and 7 of article 12 of the Missouri Constitution.

(9) That all contracts between the said two corporations by or through which the St. Joseph Company exercised control over the Doe Run Company were made in violation of chapter 98, R. S. Mo. 1909, relating to pools, trusts, and combinations, in violation of the federal Anti-Trust Law (U. S. Comp. St. §§ 8820–8823, 8827–8830), and of the Clayton Act (38 Stat. 730), and are prejudicial to the public welfare, and that the proceeding is not a proceeding on the part of the Doe Run Company stockholders for the dissolution of that company, but is a suit by the St. Joseph Company for the dissolution of the Doe Run Company.

Certain other defenses are also set forth in this answer, and in the answer of Holmes, but need not here be stated. The issues made by the answer of defendant Maynard substantially cover all of the defenses alleged in the other answers. The answer of defendant Holmes also alleged the proceeding to be an attempt on the part of the St. Joseph Company, as owner of more than two-thirds of the stock of the Doe Run Company, to force a sale of all the property of the Doe Run Company to the St. Joseph Company.

The defendant St. Joseph Lead Company by its answer admitted all of the allegations contained in the petition, and consented that a decree of dissolution should be entered, and alleged that the defendant Maynard was estopped to object to the decree of dissolution, for the reason that, although he was at all times during the pendency of the negotiations looking to dissolution a stockholder in both companies and fully acquainted with all those proceedings, he made no objection thereto; that the St. Joseph Company had purchased more than 94 per cent. of the Doe Run Company stock in an effort to execute the proposed consolidation and merger; that those purchases were made with the full knowledge of defendant Maynard and without objection on his part; that it was now impossible to restore the status quo; and that the said Maynard was thereby estopped from opposing the decree of dissolution.

The petitioner filed a reply to the answer of Maynard, setting up substantially the same matters alleged in the answer of the St. Joseph Company. The foregoing is as much of the pleadings as it is necessary to set forth.

A detailed statement of the contents of the record would be so voluminous as to tend to confuse rather than to elucidate, and is unnecessary. For that reason only so much of the facts as may be thought to be essential to an understanding of the questions presented and decided, or which tend to shed light upon those questions, will be stated.

The petitioner, the Doe Run Company, is a corporation which was organized under the

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laws of the state of Missouri in 1886, for the general purpose of lead mining. Apparently all of its property is located in this state. Its capital stock originally consisted of 2,000 shares of stock of the par value of $100 each, but at the time of the institution of these proceedings it had been increased to $10,000,000. Certificates of stock had been issued and were outstanding for 65,783 shares. The par value of the stock is $100. Appellants own something more than 1,100 shares of Doe Run Company stock.

Closely allied to the Doe Run Company is the St. Joseph Lead Company, a corporation organized under the laws of the state of New York in 1884, with a capital stock originally of $1,000,000. By successive changes the capital was ultimately increased to $20,000,000, of which $10,000,000, of the par value of $10 per share, had been issued. The general purpose of the St. Joseph Company was the same as that of the Doe Run Company. At the time of the institution of this action, Clinton H. Crane was president of both companies. The St. Joseph Company claims to own 63,401 shares of the outstanding stock of the Doe Run Company. The Doe Run Company had for some time prior to the institution of this action been under the control of the original incorporators, and the affairs of the Doe Run Company had apparently been seriously mismanaged by them. The mismanagement was of so grave a character that a liability in a sum approximating $1,000,000 on account thereof was thought to exist in favor of the Doe Run Company, and suit had been brought upon that claim by appellant Holmes and others against former officials of the Doe Run Company and others. The same individuals who were sued in that action were large stockholders in the St. Joseph Company. The St. Joseph Company was also the owner of all the capital stock of the Mississippi River & Bonne Terre Railway Company, a corporation with a capital stock of $3,000,000, operating about 72 miles of railroad. The St. Joseph Company also owned 96 per cent. of the stock of the Bonne Terre Farming & Cattle Company, the total capital stock of which consisted of 50,000 shares of the par value of $10 each, and until the date of the dissolution of the Farmers' & Miners' Trust Company, in May, 1913, the St. Joseph Company was also the owner of 83⅓ per cent. of the capital stock of that company. It also owned mining rights in about 25,000 acres in St. Francois county, and it had numerous concentrating mills, smelters, mining shafts, and the usual equipment of a lead mining company. The Doe Run Company owned about 7,000 acres of mineral land, with the usual mining equipment, and was engaged in lead mining only. It appears from the various exhibits filed in this case that, for many years prior to the institution of these proceedings, both companies had been paying dividends either in cash or stock in large sums.

In 1913, the St. Joseph Company desired to fund some of its outstanding obligations, amounting to several million dollars, and made arrangements with certain bankers to issue $2,500,000 of notes for that purpose. This arrangement was conditioned, however, as follows: That the St. Joseph Company should acquire at least 80 per cent. of the capital stock of the Doe Run Company, or there should be a merger of the properties of the two companes. At this time the negotiations which finally led to the litigation here involved were begun. A joint committee, composed of stockholders from both companies, was appointed to work out the details of the proposed purchase or consolidation. In March of 1913, this committee, of which Mr. Clinton H. Crane, the president of both companies, was a member, mailed to the stockholders of the two corporations a letter in the nature of a report, in which the stockholders were informed of the appointment of the committee and of the general purposes for which the committee had been appointed. In July, 1913, at a meeting of the committee held in New York city, a report was made of the proceedings of the committee up to that date, and a communication was sent by the committee to the boards of directors of the two lead companies, in substance as follows: (a) That the proposed merger of the two companies should be carried out as speedily as practicable; (b) that the assent of the stockholders of both companies should be obtained; (c) that the consolidation should be upon the following basis: That, inasmuch as the St. Joseph Company had a capital stock of $20,000,000, of which only $10,000,000 had been issued, $5,000,000 of the unissued stock of the St. Joseph Company should be issued in exchange for all of the outstanding capital stock of the Doe Run Company; (d) that the consolidation should be upon the basis suggested by a consulting engineer, Mr. Finlay, which, in substance, was that in the proposed new company the stockholders of the St. Joseph Company should own two-thirds of the capital stock, and the stockholders of the Doe Run Company should own one-third. Accompanying this report was a letter from four directors of the Doe Run Company, Messrs. Jones, Camp, Parsons, and Smith, in which they recommended the proposed consolidation and agreed to vote the stock which they controlled in favor of the plan proposed. With the same communication was inclosed also an agreement and proxy to be signed by the stockholders of the Doe Run Company, whereby the signers of such agreement bound themselves to agree to the proposed merger. The merger was to be effected by the purchase by the St. Joseph Company of all the properties, or of not less than four-fifths of

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the stock, of the Doe Run Company. In the event of the purchase of the properties of the Doe Run Company, the St. Joseph Company was to assume and agree to pay all of the outstanding obligations of the Doe Run Company, including all expenses incident to the merger, and the Doe Run Company was to be dissolved. In addition to the $5,000,000 of stock to be issued to the stockholders of the Doe Run Company, the St. Joseph Company was also to pay the sum of $125,000 in cash, which cash payment was to be distributed among the stockholders of the Doe Run Company in proportion to their holdings of stock in that company. The agreement embodied in the proxy, however, was optional to this extent, that it was provided that in case the St. Joseph Company declined to purchase the properties of the Doe Run Company, but should be willing to purchase the stock of that company, then the agreeing stockholders bound themselves, by signing the proxy, to sell all of their shares of stock in the Doe Run Company to the St. Joseph Company, and to accept in payment therefor cash and shares of stock in the St. Joseph Company, in proportion to their stock holdings in the Doe Run Company, on the basis of $5,000,000 in stock and $125,000 in cash to be paid by the St. Joseph Company for all of the stock of the Doe Run Company; provided, further, that the agreement should become effective in the event that the owners of 80 per cent. or more of the stock of the Doe Run Company should accept the offer thus made, within three months from September 10, 1913. Within the three months' period, the president of the Doe Run Company notified the stockholders of that company that the owners of more than four-fifths of the outstanding capital stock of the Doe Run Company had executed the agreement and proxy above mentioned, and stated that the annual meeting called for November 15, 1913, would be adjourned to December 6, 1913, at which time it was held at Bonne Terre, Mo. By that time the owners of about 91 per cent. of the capital stock of the Doe Run Company had accepted the proposed offer.

At the meeting of December 6, 1913, stockholders representing 62,002 shares of the Doe Run Company were present in person or by proxy, and a resolution was adopted which provided, in substance, as follows:

(1) An approval of the acts of the board of directors in reference to the proposed merger or consolidation of the two companies, including a settlement of the case Holmes et al. v. Doe Run Company Officials et al., above mentioned.

(2) Authority was granted to the proper officials of the Doe Run Company to sell and deliver to the St. Joseph Company all of the assets of the Doe Run Company, upon the agreement by the St. Joseph Company to assume and pay the obligations of the Doe Run Company, including all expenses incident to the sale and subsequent liquidation and dissolution of the Doe Run Company, and upon the payment by the St. Joseph Company of the purchase price of $5,000,000 in stock of the St. Joseph Company, and $125,000 in cash.

(3) That upon the consummation of this arrangement, the stock of the Doe Run Company should be surrendered and canceled, and the company itself should be dissolved.

Correlative action was taken on December 9, 1912, by the stockholders of the St. Joseph Company. On December 11, 1913, the St. Joseph Company notified the stockholders of the Doe Run Company that the St. Joseph Company declined to purchase the assets of the Doe Run Company, but was willing to purchase unconditionally 80 per cent. or more of the capital stock of the Doe Run Company, and requested that the certificates of the Doe Run Company stockholders should be presented for transfer pursuant to the terms of the proxy above mentioned. It is claimed that, under that arrangement, the St. Joseph Company has purchased 96 per cent. of the outstanding capital stock of the Doe Run Company.

It thus appears that the first suggestion of an outright purchase by the St. Joseph Company of the properties of the Doe Run Company was abandoned, and that the second method suggested—that of purchasing at least 80 per cent. of the capital stock of the Doe Run Company—was adopted instead.

As to much of the evidence in the record before us, it will suffice to say that it tended to support the contentions of the parties respectively, but the following additional facts should be stated because they are peculiarly relevant to certain of the questions we are called upon to decide:

It appears from the testimony of Mr. Clinton H. Crane, president both of the Doe Run Company and the St. Joseph Company, that the St. Joseph Company had shortly before the date of the trial, June 6, 1917, purchased a number of shares of the Doe Run Company stock, and had paid as high as $150 per share for it. It also appears that the St. Joseph Company has sold 1,200 shares of this stock to Mr. Hendon Chubb, at the price of $125 per share. This sale, however, was made for special purposes connected with the anticipated contest for dissolution and, according to the testimony of Mr. Crane, involved a profit to the purchaser of about $30,000. The evidence seems to indicate that the Doe Run Company stock at the time of the trial was worth at least $150 per share, or $50 above par.

It further appears from the testimony of this same witness that during the year 1913 the net earnings of the Doe Run Company amounted to $755,230.45. During the year 1914 the net earnings amounted to $675,385.-

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83. During 1915 the net earnings amounted to $819,417.04, and during the year 1916 the net earnings were $2,632,900.73. During the whole of this time the issued capital stock of the Doe Run Company was $6,578,300. (Appellant claims that all of the Doe Run Company stock was fully paid up, but that part of it remained unissued.)

During the corresponding years the net earnings of the St. Joseph Company were as follows: 1913, $600,000; 1914, $646,559; 1915, $505,497.10; and 1916, $3,880,091. In 1913 the St. Joseph Company had outstanding capital stock in the sum of $10,000,000 and this amount was gradually increased by issuing St. Joseph Company stock in exchange for Doe Run Company stock, until in 1916 the amount of St. Joseph Company stock outstanding was approximately $14,094,660.

On June 1, 1916, the total indebtedness of the Doe Run Company was $135,293.59. On the same date the total indebtedness of the St. Joseph Company was $3,049,253.05. These statistics are cited for the purpose of showing, to that extent, the relative financial standing and earnings of the two companies.

Mr. Crane also testified that there were five directors of the Doe Run Lead Company, namely, himself and Messrs. Harlan, Whitaker, Pryor, and Dearing. Mr. Crane, as stated, was also president at the same time of the St. Joseph Company. Mr. Harlan, Mr. Whitaker, Mr. Pryor, and Mr. Dearing each owned one share only of the stock of the Doe Run Lead Company, which they had bought from Mr. Chubb. Mr. Chubb was the purchaser of a number of shares of the Doe Run Company stock which had been transferred to him by the St. Joseph Company for the purpose of furthering the proposed consolidation scheme. Mr. Dearing also owned 4,980 shares of the St. Joseph Company stock. This stock was of the par value of $10 per share.

In connection with these facts, Mr. Crane testified:

"We don't wish to conceal the fact that the St. Joseph Lead Company is controlling the Doe Run Lead Company at the present time."

Subsequent to the entry of a judgment in this case in the court below, the trustees, Messrs. Whitaker, Pryor, Harlan, Dearing, and Crane, entered into an agreement to sell the entire trust estate of the Doe Run Company to the St. Joseph Company, for the sum of $11,000,000 (less a dividend at the rate of $5 per share) on the following conditions:

(1) The St. Joseph Company to assume and pay all debts and liabilities of the Doe Run Company except the dividend above mentioned, which was to be paid as of a date prior to the purchase;

(2) To assume and perform all lawful contracts and obligations of the Doe Run Company;

(3) To pay in cash its ratable portion of the expenses of dissolving the Doe Run Lead Company; and

(4) To pay to the Doe Run Company stockholders the value of their stock, in cash, as fixed by that contract of sale, that is, on the basis of $11,000,000 for all the property of the Doe Run Company, or to exchange the stock of the St. Joseph Company, in lieu of cash, at the rate of 8.8 shares of St. Joseph Company stock, par value $10, for one share of Doe Run Company stock, par value $100.

This proposition was reiterated, in substance, at various times during the progress of the trial. It appears also from the testimony of Mr. Crane that the appellant Maynard at no time consented to the consolidation plan, and at a meeting of the stockholders of the Doe Run Company in May, 1915, filed written objections to it. By the evidence of the same witness, it appears that among other benefits to be derived from the consolidation was that of escaping assessment for taxation purposes of large sums under both the state and federal income tax laws, and perhaps under other tax laws. There was evidence also that consolidation would result in large savings in the cost of operating and would be beneficial to both corporations in many other respects, which we do not think it necessary to set out in detail, for reasons which will appear in this opinion.

We think the facts stated, together with such others as may be mentioned in the body of the opinion, constitute a sufficient statement of the facts.

At the conclusion of the trial, the court rendered judgment in behalf of the petitioner, and thereupon appellants filed their motions for new trial and in arrest of judgment, which were overruled, and by proper steps they have appealed. All of the questions to which we hereafter refer were duly preserved below, and are properly before us for decision.

A. L. McCawley, of Jefferson City, and Warner, Dean, McLeod & Langworthy, of Kansas City, for appellant Samuel B. Maynard.

Morton Jourdan, of St. Louis, and Benjamin H. Marbury, of Farmington, for appellant Robert Holmes.

Boyle & Priest, of St. Louis, Edward A. Rozier, of Farmington, and Nagel & Kirby, of St. Louis, for Doe Run Lead Co.

WILLIAMSON, J. (after stating the facts as above). Respondent has filed a motion to dismiss the appeals in these cases upon the general theory that no appeal lies in proceedings of this kind.

Respondent also contends that appellants are estopped to question the validity of the decree of dissolution entered in the trial court, and for that reason respondent claims that the judgment must be affirmed.

Appellants assert that this is not a bona

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fide dissolution proceeding such as is contemplated by the statute upon which this proceeding is based, and for that reason appellants claim that the cause must be reversed.

Each of these three propositions is vital, and, if either is decided in favor of the party who advances it, the decision will dispose of these cases. We will consider these contentions in the order named.

I. Respondent's first contention, as stated by its counsel, is as follows:

"Three essentials must exist to entitle one to appeal from a judgment of the circuit court:

"(1) There must be a judicial proceeding to ascertain and determine litigated rights.

"(2) The right of appeal must be allowed by statute, either special or general.

"(3) The appellant must have an immediate personal pecuniary or property interest in the cause as determined, and be aggrieved by the judgment or decree complained of, that is, his legal rights be prejudiced thereby."

Respondent insists that none of these three essentials is found in this case.

In determining this question thus presented, we turn first to our own statutes. If our own laws are decisive of this question, there is no need to resort to the learning abundantly set forth in the briefs of counsel concerning the right of appeal at common law, or the procedure in other states. We therefore cite certain pertinent provisions of our Code of Procedure (Revised Statutes of Missouri 1909).

Section 1727 is as follows:

"There shall be in this state but one form of action for the enforcement or protection of private rights, and redress or prevention of private wrongs, which shall be denominated a civil action. * * *"

Section 2038, relating to appeals, provides as follows:

"Any party to a suit aggrieved by any judgment of any circuit court in any civil cause from which an appeal is not prohibited by the Constitution, may take his appeal * * * from the final judgment in the case. * * *"

Section 2040 is as follows:

"No such appeal shall be allowed unless * * * the appellant or his agent shall * * * file * * * his affidavit, stating that * * * the affiant believes that the appellant is aggrieved by the judgment or decision of the court."

Section 2090 defines a judgment thus, "A judgment is the final determination of the rights of the parties in the action."

The first question to be determined, then, is as to the nature of this proceeding. Appellant contends that it is a civil action. The contention of respondent is that this proceeding is administrative and nonjudicial in character; that the proceedings are regulated by sections 2996 to 3000, inclusive, of the Revised Statutes of Missouri 1909; and that those sections form a complete Code of Procedure in such a proceeding as is here involved.

Turning our attention to appellant's contention first, it is to be noted that section 1727, supra, in plain terms states that all actions of the kind therein described are civil actions. The description is very broad; it relates to all proceedings "for the enforcement or protection of private rights, and redress or prevention of private wrongs." It covers practically every sort of case or proceeding affecting private rights or private wrongs. While it is recognized by the statutes, and admitted by the parties in this proceeding, that certain interests of the public are here involved, that fact is not peculiar to this class of cases and does not tend to show that this is not a proceeding affecting private rights. The same condition exists in divorce cases, for example. The statute under which this proceeding is brought contemplates the filing of a petition containing allegations of certain issuable facts; it provides for issuing a summons and for an order of publication, and adversary parties are brought into court in order that they may show cause against the granting of judgment. Provision is thus made for contesting issues of law or fact, and for the hearing of evidence, in order that the court may render a judgment granting or refusing a dissolution, as the law and the facts may determine. The judgment so to be rendered may destroy the life of the corporation concerned, and may deprive the stockholders of their stock and compel them to take their distributable share of the assets in cash, thus completely changing the nature of their property and compelling the dissenting stockholders to surrender an investment which they prefer to retain. The change thus to be brought about may, and in the case at bar actually does, involve many million of dollars. Furthermore, the statute in certain matters specifically directs that the procedure of the trial court shall be "according to the practice therein," and, before a decree of dissolution is authorized, the court must be "satisfied that the prayer of such petition can be granted without prejudice to the public welfare, or to the interest of the corporators or the creditors of such corporation." If a judgment of dissolution is entered, a trust is then created embracing all of the assets of the corporation, and trustees are appointed to administer the trust. The voluminous record before us is bodily evidence that many and complicated issues of law and fact may arise in such a proceeding, requiring much time and great care for their proper hearing and decision. It seems to us that this proceeding has all of the essential characteristics of a civil action, and we hold that it is properly so classified.

The policy of this state with reference to the right of appeal has always been a very liberal one. State ex rel. v. Shelton, 238 Mo. 281, loc. cit. 297, 142 S. W. 417; Nolan v.

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Johns, 108 Mo. 431, loc. cit. 435, 18 S. W. 1107. Indeed, by the express terms of the statute (section 2038, supra) an appeal is allowed in every case unless the appeal in that class of cases is "prohibited by the constitution." We find no constitutional prohibition applicable in this instance. Respondent, however, contends that the final decree rendered in this cause is not a "judgment" within the meaning of our Code. Is the decree rendered in this case "a final determination of the rights of the parties in the action"—using the word "action" in the sense in which it is used in the Code? That the answer to that question must be in the affirmative, we think admits of little doubt. The decree in the present instance, as shown by the record before us, disposes of this proceeding in the language common to judgments in ordinary actions at law or in equity.

It recites the entry of appearance of those parties who entered their appearance, and that certain others, although "duly summoned" and "solemnly called," made default. Reference is made throughout the decree to this proceeding as a "cause." The decree recites "the submission of this cause," that the court "heard and considered all the evidence in the cause" and "accordingly does here and now adjudge and decree (and does enter its judgment and decree) that," etc., "in accordance with the prayer of said petition, and does here and now order, adjudge, and decree that the corporate charter and franchise of said, the Doe Run Lead Company, be and the same are declared to be surrendered, dissolved, and canceled, and that the corporate existence of said, the Doe Run Lead Company, shall from this day forever be ended." This is followed by a paragraph directing the officers of the company designated by the statutes as statutory trustees to take charge of the assets and affairs of the Doe Run Company and administer them, and, in the language of the decree, "to the foregoing judgment and decree defendants Samuel R. Maynard and Robert Holmes objected and excepted." Whatever may have been the intention, certainly there is little in the language of this decree to differentiate it from a judgment of the court in cases about whose character there could be no question whatever. We have heretofore construed this statute as one calling for a "judicial determination" of the facts involved. Luehrmann v. Lincoln Title & Trust Co., 192 S. W. 1026, loc. cit. 1032. Cases arising under statutes very similar to ours have been treated in other states as actions in which the right of appeal existed as a matter of course. In re Paine, 200 Mich. 58, 166 N. W. 1036; In re Hulbert, 160 N. Y. loc. cit. 15, 54 N. E. 571.

We are constrained to hold, then, that this final decree was a "final judgment" within the Code definition above given, and within the meaning of our statutes relating to appealable judgments, and that this is a judicial proceeding to ascertain and determine litigated rights.

As to whether or not the appellants are "aggrieved," it is urged by respondent that that fact depends upon whether or not appellants' legal rights have been prejudiced by the decree. But this is reasoning in a circle. Reasoning which holds that it shall be known in advance of an appeal that an injury has been sustained, when the determination of that fact can only be had upon appeal, is palpably fallacious. Moreover, the affidavit for appeal requires merely that affiant shall "believe" the appellant is aggrieved by the judgment. We need not waste further words upon this contention.

The Missouri cases cited by respondent in which it is held that an appeal would not lie may all, we think, easily be distinguished from this case. St. Louis, etc., R. R. v. City of St. Louis, 92 Mo. 160, 4 S. W. 664, relates to the building of a railroad across state and county roads. In re Town of Arcadia, 201 S. W. 359, relates to disincorporating a municipal corporation. Hall v. De Armond, 46 Mo. App. 596, relates to the incorporation of a town, and Aldridge v. Spears, 101 Mo. 406, 14 S. W. 118, relates to the vacation and establishment of public highways. All of these cases, it will be observed, relate to matters essentially, and practically solely, administrative in character, and specially, peculiarly, and almost exclusively affecting the general public.

Bean v. Barton County Court, 33 Mo. App. 635, and similar cases cited by respondent, relate to the granting or refusal of licenses to sell intoxicating liquors—a business which was never more than merely tolerated, if not actually discouraged, by the law, and which was strictly regulated by special and peculiar legislation. All of these cases differ widely both in their character and in the attitude of the law toward them from the case in hand. They certainly are not determinative—hardly persuasive, indeed—as applicable here.

The question of the existence of the right of appeal was not involved in State ex rel. v. Woodson, 128 Mo. 497, 31 S. W. 105, cited by respondent. Ackerman v. Green, 201 Mo. 231, 100 S. W. 80, relates to the examination of a judgment debtor in a proceeding to discover assets, a proceeding obviously intended to be summary in character, and so we might proceed to distinguish from the case at bar all of the cases cited upon this point by respondent, did space and time permit. We have considered them all, but do not think them controlling in this instance.

Appellant calls our attention to the fact that sections 2996 to 3000, supra, contain no provision respecting the filing of any pleadings other than the petition. This is true. But if reasons against dissolution are to be presented, can any better or more orderly method of presenting them be devised, than

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by filing appropriate pleadings and tendering issues of law or fact? If these issues are to be determined (as they are) by a court, would not the usual and orderly court procedure be the most familiar and effective way of reaching a just decision? And, finally, is not the very fact that no special provision is made for any other method of procedure evidence of a high order that, so far as applicable, the usual civil procedure should obtain in proceedings of this kind? We think so, and we think that was the legislative intent.

[1] Having reached the conclusion that this is an appealable civil action within the meaning of our Civil Code, it incidentally becomes important to determine whether it is an action at law or in equity. The statute upon which this action is based does not classify it. But that is also true of other actions arising under various statutory provisions, notably under the provisions of section 2535, R. S. Mo. 1909, relating to actions to ascertain and determine title. When the issues are at law, the proceeding is an action at law. If the pleadings tender equitable issues, then the case is in equity. In other words, the nature of the issues determines the character of the action.

"If the issues joined entitle the parties to an ordinary judgment at law, then, under the Constitution and laws of the state, the parties are entitled to a trial by jury; but, if the issues tendered are equitable in their nature and call for equitable relief, then the cause is triable before the chancellor." Lee v. Conran, 213 Mo. 404, loc. cit. 412, 111 S. W. 1151.

[2] Measured by the standard thus laid down, it seems clear that, in view of the nature of the relief sought (in part, the creation and administration of a trust), as well as of the nature of the issues tendered, this is an action in equity. The parties and the trial court have so treated it. The St. Joseph Company in its answer, and the Doe Run Company in its reply to the answer of appellant Maynard, each pleads estoppel in pais, which is an equitable plea. We accordingly hold that this is an equitable action.

II. Respondent asserts that appellant Maynard is estopped to question the dissolution proceedings. We take from respondent's brief the following statement of facts upon which the plea of estoppel is based:

"The record disclosed that Maynard, for a number of years prior to 1912, was the owner of substantial blocks of stock in St. Joseph Lead Company and also in the Doe Run Lead Company; that he received the letter of the joint committee dated March 20, 1913, * * * advising him of the appointment of the joint committee, and its plans and purposes; that he received the report of the joint committee of September 10, 1913, in due course of mail; that he also received the 'Agreement and Proxy,' also the letter from the four directors of the Doe Run Lead Company, dated September 15, 1913; that he was duly notified thereby of the report of the committee and its recommendations; that in due course he was notified of the meetings of the stockholders of the two companies to take action thereon and that he received the letter from St. Joseph Lead Company, dated December 11, 1913, notifying him that said company had elected and was proceeding to purchase not less than 80 per cent. of the stock of the Doe Run Lead Company.

"In addition, by conversation with Camp, * * * he learned that St. Joseph Lead Company had acquired the necessary stock for the purpose of the ultimate consolidation as planned. Maynard, both by letter and conference with Camp and Crane, was fully advised of the transactions between the two companies. Notwithstanding Maynard's complete knowledge of all that was being done and was done, the record shows no objection from him at either of the stockholders' meetings of the two companies, held as follows: The Doe Run Lead Company on December 6, 1913, or St. Joseph Lead Company on December 9, 1913, or the stockholders' meeting of the Doe Run Lead Company held October 10, 1914. His first objection was made at the stockholders' meeting of May, 1915, of the Doe Run Lead Company. During this period the Doe Run stockholders had exchanged their shares, the St. Joe Company had bought them, each company had materially changed the personnel of its stockholders, and each had profited by the economies of joint operations, as well as by improved methods, and, aided by a greatly increased price received for its lead product, both companies were prosperous.

"Maynard did not attend the stockholders' meeting held December 6, 1913, for the reason stated by him that over 90 per cent. of stockholders 'had agreed to exchange their stock for St. Joe. stock. There was no use of my going to the meeting.'"

[3] The foregoing is a fair summary of the facts upon which the plea of estoppel is founded. Are these facts sufficient to constitute estoppel? We think not. The most that respondent claims amounts merely to this: That appellant stood by with full knowledge of what was intended and of the steps that were being taken to carry that intention into execution, but did nothing to thwart the scheme that others had devised and were proceeding to execute. There is nothing in this record to cast doubt upon the business acumen of the experienced and skillful financiers who, under the guidance of learned counsel, were for three years engaged in perfecting the plans which were to bear fruit in a decree of dissolution. Presumptively, they knew the law and their rights under the law. It is not claimed that appellant ever consented to their plans or participated in executing them. The complaint amounts, in substance, to a claim that appellant knew what they were planning to do and did not stop them. Estoppel in pais does not necessarily arise from notice and inaction alone. The essentials of estoppel in pais are well stated as follows:

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"The cases when carefully analyzed show that all of the following elements must actually or presumably be present in order to an estoppel by conduct: (1) There must have been a false representation or a concealment of material facts; (2) the representation must have been made with a knowledge of the facts; (3) the party to whom it was made must have been ignorant of the truth of the matter; (4) it must have been made with the intention that the other party should not act upon it; (5) the other party must have been induced to act upon it." Bigelow on Estoppel (3d Ed.) 484.

See, also, Blodgett v. Perry, 97 Mo. 263, loc. cit. 272, 10 S. W. 891, 10 Am. St. Rep. 307; Harrison v. McReynolds, 183 Mo. 533, loc. cit. 548, 82 S. W. 120.

Certain essential elements of estoppel are neither pleaded nor proven in this case.

Nor do we well see with what grace the plea of estoppel can be made by the only parties who are here relying upon it, in any event. So far as the Doe Run Company is concerned, the facts simply are that certain of its stockholders have sold their stock. This they had a right to do, and they are making no complaint. As to the St. Joseph Company, it has bought certain shares of stock, but it is neither alleged nor proven that it has lost by the investment. On the contrary, there is no small amount of evidence from which the contrary might be inferred. In order to make good a plea of estoppel, it is necessary both to allege and to prove that one has been misled to his hurt. Acton v. Dooley, 74 Mo. 69; De Lashmutt v. Teetor, 261 Mo. 412, 169 S. W. 34. In so saying, we do not overlook respondent's insistence that the results of not being permitted to bring the scheme of merger to full fruition may cause embarrassment and inconvenience. The question is whether such ill results are properly chargeable to appellant's wrongful conduct or to respondent's own imprudence. We incline to the latter view. Appellant Maynard never agreed to the consolidation scheme, and the parties knew, at least as early as May, 1915, that he was objecting to a consolidation. A careful study of this record justifies the conviction that it is a case where Greek met Greek, and there is no room for an application of the doctrine of estoppel. We rule this point against respondents.

III. Appellants assert that this is not a bona fide dissolution proceeding such as is contemplated by the statute upon which this proceeding is based, and for that reason appellants claim that the cause must be reversed.

The statute here involved provides for the voluntary dissolution of a corporation upon either of two given states of fact. The first is not applicable in this case. The second, upon which this proceeding is based, exists "whenever the stockholders holding at least two-thirds in value of all the shares of stock in said corporation shall adopt a resolution favoring the dissolution of such corporation, whether said corporation be indebted or not, or whether its stock has depreciated below its par value or not." Upon the adoption of such a resolution and the filing of a proper petition, the statute (section 2996, supra) provides that "such corporation *may* be dissolved by a judgment or decree of the circuit court. * * *" (Italics ours.) The statute does not give to the majority an absolute right to procure a decree of dissolution, nor does it confer upon the minority an absolute power to prevent it. Neither does the statute vest in the majority a right, under color of dissolution proceedings, to compel the minority to take stock in a new corporation in lieu of its stock in the former one, nor has the majority a right to fix the price which shall be paid for the stock of the dissenting stockholders, and compel them to accept it. The stock which belongs to appellants is their private property, and private property (with certain exceptions not here invoked) cannot, without the owner's consent, be taken for private use by any majority, however great, nor by the payment of any price, however large. Our Constitution provides:

"That no private property can be taken for private use, with or without compensation, unless by the consent of the owner, except for private ways of necessity, and except for drains and ditches across the lands of others for agricultural and sanitary purposes, in such manner as may be prescribed by law. * * *" Section 20, art. 2, Constitution of Missouri.

In the case at bar, it is frankly stated that the purpose of the majority stockholders is to effect a consolidation of the Doe Run Company with the St. Joseph Company. The Doe Run Company seems to be engaged in a prosperous and promising business. In addition to what appears in our statement of facts, we quote the following from respondent's brief:

"By the date of the trial each company had realized very large profits. The St. Joseph Lead Company had paid all its matured debts, and on December 31, 1916, had more than $2,500,000 of cash in addition to other quick assets; and the Doe Run Lead Company at date of trial had over $1,000,000 in cash; and the two companies had paid dividends as follows:

"St. Joseph Lead Company in 1914, 2½ per cent.

"St. Joseph Lead Company in 1915, 6 per cent.

"St. Joseph Lead Company in 1916, 10 per cent. and 15 per cent. amortization.

"St. Joseph Lead Company to April 30, 1917, 2½ per cent. and 5 per cent. amortization.

"The Doe Run Lead Company in 1914, none.

"The Doe Run Lead Company in 1915, 8 per cent.

"The Doe Run Lead Company in 1916, 10 per cent. and 15 per cent. amortization.

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"The Doe Run Lead Company in 1917, 20 per cent. amortization."

[4, 5] It thus appears that, during the four-year period immediately preceding the institution of this suit, the St. Joseph Company paid dividends amounting to 41 per cent., and the Doe Run Company paid dividends amounting to 53 per cent., on the amounts of their outstanding capital stock, respectively. The majority proposes to permit all the stockholders of the Doe Run Company to become stockholders on fair terms, as respondent claims, in the St. Joseph Company, or to pay to the stockholders of the Doe Run Company who refuse to come in the fair value of their shares of stock in the Doe Run Company. In either event, the St. Joseph Company becomes the owner of appellants' stock. Under the circumstances, are appellants bound to accept either of these propositions? So long as the constitutional provision above cited remains a part of the fundamental law of this state, we think they are not. That they cannot be compelled to exchange their stock for other stock needs no demonstration. That they cannot be compelled to sell their stock is equally clear. It is true that, if a dissolution is had and all of the assets of the company are converted into cash, appellants finally are compelled to accept money in lieu of stock. But their stock is by that method paid—not sold. It is extinguished—not transferred to another. That that result may be brought about by a "real dissolution" is one of the incidents contemplated when the stock was bought. It is a part of the implied contract between the stockholders. Such a result is not a violation of the contract. But to permit that result to come to pass in consequence of a "pretended dissolution" is to permit a thing not originally contemplated and which is in violation of the contract between the stockholders. It is a taking of private property for private use, in defiance of the Constitution. Or, to phrase the same thought otherwise, the stockholders buy their stock charged with notice that the corporation may be dissolved upon the application of two-thirds of the stock if, in the judgment of the court, dissolution can then be effected "without prejudice to * * * the interest of the corporators," to use the language of the statute. But corporators include minority as well as majority stockholders, and it cannot fairly be said that the minority interests are not prejudiced if minority corporators are compelled to accept cash for their stock merely because the majority desires to own all of the stock. The statute contemplates that the power of dissolution vested by it in the holders of two-thirds of the stock shall be exercised by them in good faith for the benefit of all of the corporators, and not to the prejudice of any, and, when an attempt is made by the majority to exercise that power for the benefit of less than all of the corporators, then the power fails. Any other construction makes the statute a weapon in the hands of the majority, for the oppression of the minority, and this was never intended.

[6] Moreover, the dissolution statute contemplates a sale of the assets, a payment of the debts, if any, and a distribution of the remainder of the proceeds among the stockholders—an administration of the assets of a defunct corporation, to put it bluntly. But the St. Joseph Company is shown by this record now to be offering to perform all lawful contracts and obligations of the Doe Run Company, and to pay all of its indebtedness, including the costs of dissolution, except appellants' proper proportion of those costs—relatively a trivial sum. Practically all that remains to be done, upon respondent's theory, is to "administer" the assets sufficiently to pay off the dissenting stockholders, and consolidation will be an accomplished fact. Can consolidation be effected under our statutes in this way? Manifestly, it cannot. Suppose both of these corporations were Missouri corporations, organized as the Doe Run Company is, and as the St. Joseph Company would have to be if it were a Missouri corporation, under the article relating to manufacturing and business corporations; could they, even by unanimous action, effect a consolidation by having one corporation buy all of the stock of the other and then dissolve the corporation whose stock had been sold? We think not. Such a proceeding would be illegal and contrary to public policy as that policy is declared in our statutes. Section 3360, R. S. Mo. 1909, provides the method by which such consolidation may be effected, and section 3362 of the same chapter and article expressly limits the right of consolidation to corporations organized solely for manufacturing purposes. These two corporations are not within that category. The expression of the legislative will embodied in sections 3360 and 3362, and in sections 2996 to 3000, inclusive, supra, is declaratory of the public policy of the state respecting the consolidation and dissolution of corporations. Consolidation and dissolution may be effected as in these statutes provided and not otherwise. The rule by which the extent of the powers of a corporation is determined was aptly stated by Williams, J. (then Commissioner) in Prairie Slough Fishing & Hunting Club v. Kessler, 252 Mo. 424, loc. cit. 433, 159 S. W. 1080, 1082, as follows:

"It is a well-settled rule that, when the organic or statutory law specifies the powers a given corporation may exercise, or the property it may hold, such specification by implication excludes all other powers or rights, except such incidental or subordinate rights and powers as may be necessary to an exercise of the powers and rights expressly given."

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See, also, State ex inf. v. Mo. Athletic Club, 261 Mo. 576, loc. cit. 599, 170 S. W. 904, L. R. A. 1915C, 876, Ann. Cas. 1916D, 931; Hanlon Millinery Co., v. Trust Co., 251 Mo. 553, loc. cit. 575, 158 S. W. 359.

[7] If two Missouri corporations not engaged "solely" in manufacturing could not lawfully effect a consolidation, then it seems quite clear on principle that a foreign corporation acting in concert with a domestic corporation, in a proceeding in our courts, based upon the provisions of our statutes, cannot do so, particularly when neither of them is engaged "solely" in manufacturing. To countenance such a proceeding would be to extend privileges to foreign corporations which the state denies to its own citizens. If this were permitted, it would amount to a virtual repeal of our statutes relating to the consolidation of corporations. But we are not left without definite guidance on this point. Section 3037 (Rev. Stats. Mo. 1909) in express terms provides that foreign corporations doing business in this state shall be subject to all the restrictions imposed by our laws upon domestic corporations of like character, and shall have no other or greater power. Since two nonmanufacturing domestic corporations cannot consolidate, it is certain that a domestic corporation cannot consolidate with a foreign corporation, when neither is engaged solely in manufacturing.

Furthermore, under the provisions of section 2996, supra, the officers of the Doe Run Company, if a decree of dissolution is granted, become the trustees of all of the assets of the corporation. Trustees for whom? They become trustees for the Doe Run creditors and stockholders and are in duty bound to sell the assets to the highest bidder and for the highest price obtainable. But it is patent upon the face of the record before us that these officials stand committed to the plan of consolidation. The very heart and soul of that plan is that the St. Joseph Company shall become the owner of all of those assets, and the Doe Run Company is avowedly controlled by the St. Joseph Company. Self-interest on the part of the St. Joseph Company demands that these assets should be bought at the lowest possible price. The very officials who are to act as statutory trustees are part and parcel of the means whereby consolidation is to be carried out. Two of them are large stockholders in the St. Joseph Company and expect to profit by the consolidation and have for several years been laboring to effect it. The other three are merely nominal stockholders in the Doe Run Company. We would not intimate that the officials of the Doe Run Company are not honorable men. We mention the incongruous position in which such a trusteeship would place them only for the reason that it evidences the fact that the law never intended that such an incongruity should exist. Hill v. Rich Hill Coal Mining Co., 119 Mo. 9, loc. cit. 23, 24 S. W. 223. It never would exist in a bona fide dissolution proceeding. The fact that a court of equity would probably have power to appoint other trustees, and in this way, or perhaps by other methods, prevent injustice to the minority stockholders (a question about which we express no opinion), may indicate a remedy, but does not lessen the force of the argument. This predicament, abhorrent to the law, grows out of the attempt to distort the statute from its plain purpose, and to do by indirection what cannot be done directly. It cannot be that the Legislature intended that a statute which was designed merely to facilitate a bona fide dissolution should be used as an easy method of affecting a consolidation, particularly when one of the avowed purposes of this proceeding is to enable the interested corporations to evade certain revenue laws of the state. "Dissolution" means a going out of business, a cessation of business activity —business death, in short. Sections 2996 to 3000, supra, were designed to furnish means of accomplishing that end. Consolidation implies continued life and increased activity. "Over all things certain, this is sure indeed," that business death is the thing farthest from the intention of the St. Joseph Company and the will of the St. Joseph Company is the will that controls this proceeding, though it is brought in the name of the Doe Run Company. "The voice is Jacob's voice, but the hands are the hands of Esau." To use a somewhat gruesome metaphor, what is here being attempted is not corporate suicide, but corporate homicide. It is equally plain that the statute by which the St. Joseph Company seeks to attain that end was never intended to be used to permit one corporation to take the life of another.

[8] We think that the statutes relating to the dissolution of corporations contemplates a dissolution in fact as well as in name. "Dissolution" is used in its ordinary sense and meaning, and is to be so construed. As defined by Webster, "dissolution" means, "act or process of dissolving or breaking up; separation into component parts; disorganization." "Consolidation," by the same authority, is "solidification; combination; strengthening." Whether or not a decree of dissolution should be granted in a given case, then (other requirements of the law being satisfied), depends upon the simple question of the good faith of the proceeding, and that is a question to be determined upon the facts of each particular case. A determination of the question of good faith does not necessarily involve an inquiry into the motives of either group of stockholders with reference to the effect of dissolution upon themselves or upon the other group. By saying that the proceeding must be in good faith,

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we mean that it must appear upon the face of the record (using that term in its broad sense) that the suit for dissolution is such a suit as is contemplated by our statutes; that is, that the dissolution sought must be a bona fide dissolution intended to culminate in a cessation of corporate life and a distribution of corporate assets. Anything else is a fraud upon the law which the courts will not countenance. If our statutes relating to the consolidation and dissolution of corporations are not sufficiently elastic to meet the needs of modern business, relief from that evil must be sought through new legislation rather than through an erratic and dubious construction of existing laws. In the case in hand we think (speaking in legal phraseology, and not as implying moral obliquity) that the proceeding is not in good faith. It is an attempt to use the law of dissolution as a law of consolidation. This cannot be done. This view has been sustained in other jurisdictions upon reasoning so terse, lucid, and comprehensive, and upon facts so closely analogous, that we feel justified in adopting the arguments as our own, and we therefore quote liberally from them.

The identical question here involved was presented, under a statute very similar to our own, in a suit brought for the dissolution of a corporation in the state of Washington. The Supreme Court of that state said:

"If it appeared from the testimony in this case that this was an attempt to dissolve the corporation, and legal requirements had been complied with, the duty of the court to adjudicate such dissolution would be plain, for it is no doubt true that, when the stockholders entered into the contract by which they obtained their stock, they must be held to have contracted with reference to the law which gave a two-thirds majority of the stockholders power to dissolve the corporation.

"But as we read the record in the case, there was no attempt to dissolve the corporation, and it cannot be said to have been within the contemplation of the contract that a two-thirds majority, or any majority, had a right to juggle with the corporation and the law. The object of the law is a beneficial one, and is to prevent a small minority from unduly influencing the corporation and preventing its dissolution, under circumstances unfavorable to its existence. But the record here shows conclusively that no real cause for dissolution existed; that the corporation was making money and prospering in every way; and, while this would probably not be a sufficient reason why a court should not grant the dissolution, it bears upon the question of whether or not there was an actual intent to disincorporate. * * * It is not enough to say that appellant received all his stock was worth. He embarked in this business, and had a right to stay in the business during the expressed life of the corporation, or until it was dissolved by a fair compliance with the law."

Theis v. Spokane Falls Gaslight Co., 34 Wash. 23, loc. cit. 28, 29, 30, 74 Pac. 1004, 1006.

In the same case the court quoted with approval the following paragraph from Cook on Corporations:

"And certainly if the purpose of such dissolution is not the bona fide discontinuance of the business, but is the continuance of that business by another new corporation, then the rule is that a dissenting stockholder may prevent the sale, even though it is made with a view of dissolution of the corporation. This is the law as laid down in the well-considered case of Kean v. Johnson, 9 N. J. Eq. 401. Such a dissolution is practically a fraud on dissenting stockholders. It seeks to do indirectly what cannot legally be done directly." Cook on Corporations, § 670.

It should be noted that in the Theis Case, the Washington statute peremptorily declares that, upon the adoption of a proper resolution by two-thirds of the stockholders, the court "shall enter an order" of dissolution. Our statute, as we have said, provides merely that the court "may" enter such an order.

A similar question arose in the case of Ervin v. Oregon Railway & Navigation Co. (C. C.) 27 Fed. 625, loc. cit. 629 and 630, wherein the court, in referring to the promoters of a somewhat similar plan of consolidation, said:

"They never contemplated winding up the business of the old company, and distributing the assets among its stockholders, otherwise than as a formal mode of doing what they could not do by legal sanction. What they intended to do, and what they practically did, was to effect a consolidation of the old company with the new, using as the means for the end the statutory power which authorized a majority of stockholders to dissolve the corporation, settle its business, and dispose of its property. * * *

"It cannot be denied that minority stockholders are bound hand and foot to the majority in all matters of legitimate administration of the corporate affairs; and the courts are powerless to redress many forms of oppression practiced upon the minority under the guise of legal sanction, which fall short of actual fraud. This is a consequence of the implied contract of association, by which it is agreed, in advance, that a majority shall bind the whole body as to all transactions within the scope of the corporate powers. But it is also of the essence of the contract that the corporate powers shall only be exercised to accomplish the objects for which they were called into existence, and that the majority shall not control those powers to pervert or destroy the original purposes of the corporators. Livingston v. Lynch, 4 Johns. Ch. 573; Hutton v. Scarborough Cliff Co., 2 Drew. & S. 514; Brewer v. Boston Theatre, 104 Mass. 378; Keane v. Johnson, 9 N. J. Eq. 401; Rollins v. Clay, 83 Me. 132; Clinch v. Financial Corp., 4 Ch. App. 117; Clearwater v. Meredith, 1 Wall. 25. It is for this reason that the majority cannot consolidate the corporation with another corporation, and impose responsibilities and hazards upon the minority not contemplated by the original enterprise, unless express statutory authority for this purpose is conferred upon the majority. It is no more

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repugnant to the purposes of the association to permit the majority to merge and consolidate the corporation with another corporation than it is to permit them to dissolve it, and abandon the enterprise for which it is created, when no reason of expediency requires this to be done. A dissolution under such circumstances is an abuse of the powers delegated to the majority. It is no less a wrong because accomplished by the agency of legal forms."

A statute very similar to our own is found in the laws of the state of Michigan. As in Washington, the Michigan statute says that, upon certain facts being made to appear, "a decree shall be entered." A suit was brought under that statute for the dissolution of a mining corporation. The right to dissolve was given by the statute whenever the directors should for any reason deem it beneficial to the stockholders that the corporation should be dissolved. The directors of the petitioning corporation in that instance so resolved and filed dissolution proceedings accordingly. It was alleged in the petition, in substance, that another corporation had offered to bind itself to purchase the property at a price which would enable the stockholders of the petitioning corporation to obtain a larger annual return in perpetuity than could be realized by them from the operation of the corporation during the lifetime of the mine. The court said:

"We therefore have before us a petition to dissolve a corporation under the statute in order that a holding company, another corporation, may acquire, by force of dissolution proceedings, what it has been unable to acquire by purchase or exchange in the open market. It does not appear to be the intention to dissolve the corporation and discontinue the business of mining and distribute its assets among the stockholders, because beneficial to them, nor does it appear to be desired because of any inherent physical or financial weakness in the organization or its property, but it appears to be desired for the reason that the Copper Range Company may become the owner of all the shares instead of a portion of them. The idea back of this desire is said to be that the cost of operation can be materially reduced if the property can be operated as a unit with Baltic and Champion. This may be so, and perhaps is commendable as a business proposition, but it is no measure of respondents' rights. * * *

"It is not conceivable that the Legislature ever intended that the statute should be used for such a purpose. To give the statute this construction would open the way to the majority interest of every corporation in the state to dispose of an offensive minority in the same way if it saw fit. Such a construction would be injurious to the public interest and not beneficial to the stockholders as a whole. For a similar case upon the law and facts, and one which answers many of the arguments of the petitioner in this case, see Theis v. Spokane Falls Gaslight Co., 34 Wash. 23, 74 Pac. 1004."

In re Paine, 200 Mich. 58, 65, 166 N. W. 1036, loc. cit. 1038, 1039.

Since the question here involved is new in this state and is one of importance, we may be pardoned, perhaps, for prolonging this opinion by quoting from another case strikingly similar to the case in hand. In Riker & Son v. United Drug Co., 79 N. J. Eq. 580, 82 Atl. 930, Ann. Cas. 1913A, 1190, decided in 1912, the board of directors of the United Drug Company, a New Jersey corporation, incorporated another company by the same name under the laws of Massachusetts, and the latter company then offered to purchase all of the property and assets of the New Jersey corporation, subject to all of its indebtedness, and to pay therefor by issuing stock of the Massachusetts corporation. A dissolution of the New Jersey corporation was contemplated as one of the steps in the reorganization. Certain objecting stockholders of the New Jersey corporation sought to enjoin these proceedings, but were denied relief in the trial court, and appealed. The new Jersey Court of Errors and Appeals said:

"Manifestly, the prime purpose of the scheme outlined in this communication is not the winding up of the New Jersey corporation and the distribution of its assets, or the proceeds of the sale thereof, among its stockholders, but the absorption of that company by the Massachusetts corporation, the transfer not only of its assets but of its business, to that corporation, and the future carrying on of that business by the Massachusetts corporation under the name of the defendant company. The scheme, in its essence, whatever it may be in form, is not a plan for the reorganization of the New Jersey company, nor even for the winding up of its business and its dissolution within the meaning of the latter word as used by our Corporation Act, but is a scheme for its merger into or consolidation with the Massachusetts corporation. State v. Atlantic City and Shore Railroad Co., 77 N. J. Law (48 Vr.) 466, 483.

"Consequently, the fundamental question now to be decided is whether a corporation of this state, organized under our General Corporation Act, may legally be merged into or consolidated with a corporation created by and organized under the laws of a sister state. The answer to this question seems to us not to be in doubt. As was said by this court in Colgate v. United States Leather Co., 75 N. J. Eq. (5 Buch.) 229, the power of corporations to consolidate and merge is not to be implied, and exists only by virtue of plain legislative enactment; and no statute of our state can be found which authorizes the proposed scheme. The only right given, by our Legislature, to two or more corporations to merge or consolidate into a single corporation, is expressly limited to those which are organized under the laws of our own state. Revised Corporation Act, par. 104; P. L. 1896, p. 309. The proposed plan for the so-called 'reorganization' of the defendant company is, therefore, in violation of the law of the state whose creature it is; and, this being so, any stockholder who refuses to consent thereto is entitled to the aid of a court of equity to prevent its being carried into execution. Each stockholder of the company owns a share of its property and assets, and is entitled to have

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a proportionate share in its profits. They have invested their capital in it, and in it alone, and they are entitled to every dollar that it earns. This is the agreement of the stockholders among themselves. They each contract with the other that their money shall be employed for the purposes specified in the certificate of incorporation, and for no other purpose, and that the profits of the enterprise shall be ratably apportioned among them. In the absence of legislation permitting a variation of the provisions of this fundamental contract, by vote of a majority of the stockholders, no majority, however large, has a right to divert any part of the joint capital, however small, to any purpose not consistent with and growing out of this original, fundamental agreement. Black v. Delaware and Raritan Canal Co., 24 N. J. Eq. (9 C. E. Gr.) 456, 463; Mills v. Central Railroad Co. of New Jersey, 41 N. J. Eq. (14 Stew.) 1; Colgate v. United States Leather Co., supra.

"The scheme, in the carrying out of which the dissolution of the company is a proposed step, is a fraud upon the statute (the word is used in a legal, not a moral sense); and every act done in the furtherance thereof, no matter whether it be legal, standing alone, or not, is equally a fraud upon the statute. This being so, the complainants were entitled to an injunction to restrain the proposed invasion of their rights under the contract of incorporation, as soon as it was made manifest that such invasion was in fact contemplated." Riker & Son, supra, 79 N. J. Eq. loc. cit. 582 et seq., 82 Atl. 931, Ann. Cas. 1913A, 1190.

The case was reversed and remanded with instructions to enjoin the proposed proceeding. All of the twelve members of the court concurred.

Contra

The same reasoning upon the same proposition may be found in White v. Kincaid, 149 N. C. 415, 63 S. E. 109, 23 L. R. A. (N. S.) 1177, 128 Am. St. Rep. 663; New Orleans, etc., R. R. Co. v. Harris, 27 Miss. 517; Abbott v. American Hard Rubber Co., 33 Barb. (N. Y.) 579; Forrester v. B. & M. M. Co., 21 Mont. 544, loc. cit. 562, 55 Pac. 229, 353; and in numerous cases from other states. The statutes upon this subject differ widely in the various states, and the decisions must be studied in the light of those statutes. In some cases, the requisite number of stockholders is given an absolute right to a decree of dissolution, as in Louisiana; in others, as in Washington and Michigan, though the statute is peremptory the court nevertheless exercises a discretion, as we have pointed out, and in still other states, as in Missouri, the court "may" grant such a decree upon the vote of a given majority of the stockholders.

In fairness, it should so be said that numerous and respectable authorities lend color to respondent's contention, but none is so pertinent upon the facts here involved as the cases above cited, which support the contrary view. The cases which tend to support respondent's contention are Bowditch v. Jackson Co., 76 N. H. 351, 82 Atl. 1014, L. R. A. 1917A, 1179, Ann. Cas. 1913A, 306; Tanner v. Lindell Ry. Co., 180 Mo. 1, 79 S. W. 155, 103 Am. St. Rep. 534; Treadwell v. Salisbury Mfg. Co., 7 Gray (Mass.) 393, 66 Am. Dec. 490; and a line of authorities cited in those cases. The case of Tanner v. Lindell Ry. Co., supra, is distinguishable from the case at bar in material respects, both as to the law and the facts. For one thing, the dissenting stockholders in that case declined to reveal the amount of stock held by them, and the court treated them as the owners of but one share each of the aggregate par value of $200, and, in effect, applied the maxim, "De minimis lex non curat." In the case at bar, appellants' stock is shown by the record to be worth approximately $165,000. Further, in the Tanner Case the plaintiffs stood by and saw all of the assets of the Lindell Railway Company sold and transferred to another corporation and remained silent until after the purchasing corporation had leased all of the property, amounting to "many millions of dollars," to still another corporation, and had also issued bonds in the sum of $45,000,000, secured by a mortgage upon the property purchased from the Lindell Company and other property. The plaintiffs sought to have all of these proceedings rescinded and canceled solely upon the bare legal proposition that the Lindell Railway Company had no power to dispose of all of its assets without the unanimous consent of its stockholders. The good faith of the proceedings was not questioned. This court thereupon said: There is nothing in a court of equity for the plaintiffs upon the case above stated." The decision was obviously just, but it turns upon a widely different state of facts from that with which we are called upon to deal in this case, and announces no principle in conflict with those here announced. We will not prolong this opinion by discussing the cases from other jurisdictions cited by respondent, but (leaving that task to the discriminating reader) will content ourselves with saying that to us they have not brought conviction.

We have endeavored to weigh the authorities well. As a result, we are persuaded not only that the weight of authority is in favor of the conclusion herein announced, but, what is more important, we think our conclusions are in accord with right reason and evenhanded justice—and that in law "is the immediate jewel of the soul."

Something is said in the briefs about the difficulty or impossibility of restoring the status quo ante. That difficulty, if it exists, is the result of an attempt to wrest the law from its purpose, as we construe it, and to violate its spirit while professing to observe its letter. Such attempts do not commend themselves to the indulgence nor deserve the assistance of the court. But we think the difficulty is exaggerated. The St. Joseph Company is in undisputed ascendency in both

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corporations, and we incline to the belief that it has loosed no force which it cannot bind. Both corporations have always been closely allied and dominated by certain "family groups." There seems to have been no material shifting of power. But these questions we do not now hold in judgment. Numerous and interesting questions which we have not discussed have been ably briefed and argued in briefs aggregating nearly 1,000 pages. These questions it is not now necessary to decide, and prudence dictates that we should reserve our views upon them until their determination becomes necessary.

After careful study, we have come, not without difficulty, but at last with confidence, to the conclusion that, for the reasons stated, this cause should be reversed.

It is so ordered.

All concur; WILLIAMS, J., in the result.

WOODSON, J., absent.

STATE ex rel. MAYNARD v. HUCK, Judge.
(No. 20653.)

(Supreme Court of Missouri, in Banc. June 19, 1920.)

Certiorari by the State of Missouri, on the relation of Samuel R. Maynard, against Peter Huck, Judge of the Twenty-Seventh Judicial Circuit of the State of Missouri, and of the circuit court of Saint Francois County, Mo. Case dismissed.

A. L. McCawley, of Jefferson City, and Warner, Dean, McLeod & Langworthy, of Kansas City, for relator.

Boyle & Priest, of St. Louis, Edward A. Rozier, of Farmington, and Nagel & Kirby, of St. Louis, for respondent.

WILLIAMSON, J. This is a certiorari case, closely akin to the case of In the Matter of the Dissolution of the Doe Run Lead Co. upon the appeals of Samuel R. Maynard and Robert Holmes. Those appeals were consolidated and have been decided at this term of court, 228 S. W. 600.

In the trial of the proceeding for the dissolution of the Doe Run Lead Company, a judgment of dissolution was rendered by the trial court, and when an appeal was taken by the dissenting stockholders, Maynard and Holmes, the trial court fixed the amount of the appeal bond at $750,000. Thereupon the appellants applied to this court for a writ of certiorari to correct the alleged error of the trial court in fixing the amount of the appeal bond at that sum. The writ of certiorari was granted, and return duly made thereto; but, pending the decision of this court in the appeals from the decree dissolving the Doe Run Lead Company, no further action has been taken in this case.

In the Doe Run Lead Company case, an application was made and granted for an order staying the execution of the decree. Our opinion in the consolidated case with respect to the dissolution of the Doe Run Lead Company renders this case, to all intents and purposes, a mere moot case. The judgment of dissolution having been reversed upon the appeals taken from that decree, there is no longer any occasion to inquire into the action of the trial court in requiring a bond, or in fixing the amount thereof.

This case should be dismissed.

It is so ordered.

All concur.

WOODSON, J., absent.

McMURRY v. KANSAS CITY et al.
(No. 22193.)

(Supreme Court of Missouri, in Banc. June 29, 1920.)

1. Municipal corporations ⟹277—Kansas City authorized to construct joint sewer, with outlet out of state, and pay for same in special tax bills.

Under its charter (Laws 1911, p. 334, and Laws Kan. 1911, c. 177), Kansas City was authorized to define a joint sewer district and maintain the proposed sewer therein and an outlet in Kansas, and to pay for same in special tax bills to be assessed and levied upon the lands within the joint district, Kansas consenting.

2. Municipal corporations ⟹270—Limitation of power to construct sewers defined.

The only limitations upon the right of a city in the exercise of its charter powers to establish sewer districts and provide for the construction of sewers therein is that acts or ordinances in furtherance of such power shall not be the creatures of fraud, whim, or caprice, or in violation of common right, or impose a burden on the citizens, without any corresponding benefit.

3. Evidence ⟹14—Judicial notice taken of moral and physical benefits arising from construction of sewers.

The courts take judicial notice of the fact that sewers preserve the health of the residents of a city and elevate their moral tone, and thereby encourage right living.

4. Municipal corporations ⟹63(1)—Vested with discretion in constructing sewers not subject to review.

Municipalities in the exercise of their powers to establish sewer districts and construct sewers, are, in addition to the mere power to act, vested with a discretion not subject to review unless it is affirmatively shown to have been exercised arbitrarily, fraudulently, or oppressively.

5. Municipal corporations ⟹63(1)—Establishment of joint sewer district held discretionary matter not reviewable.

Act of Kansas City in establishing a joint sewer district to drain Turkey creek, including

⟹For other cases see same topic and KEY-NUMBER in all Key-Numbered Digests and Indexes

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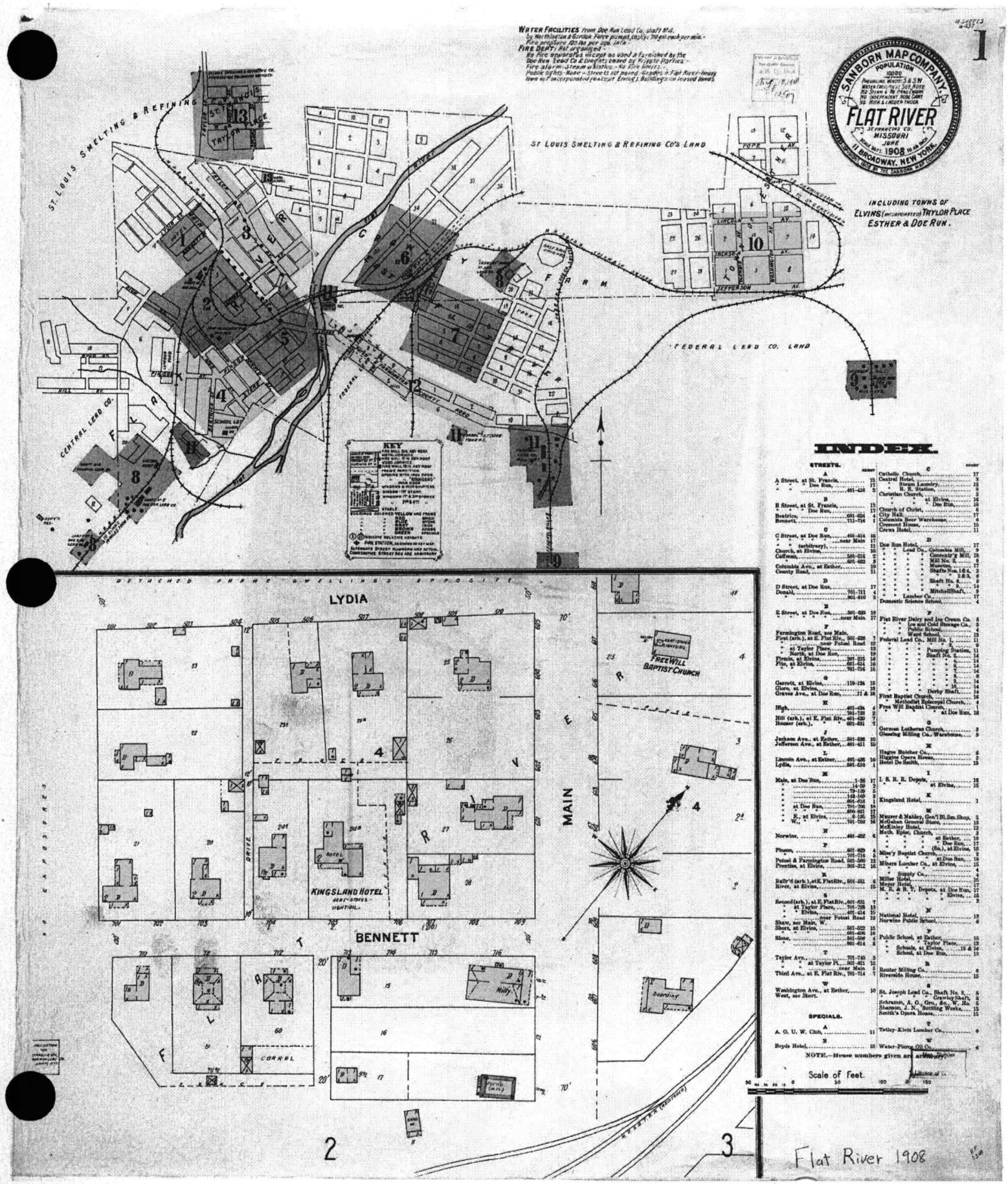
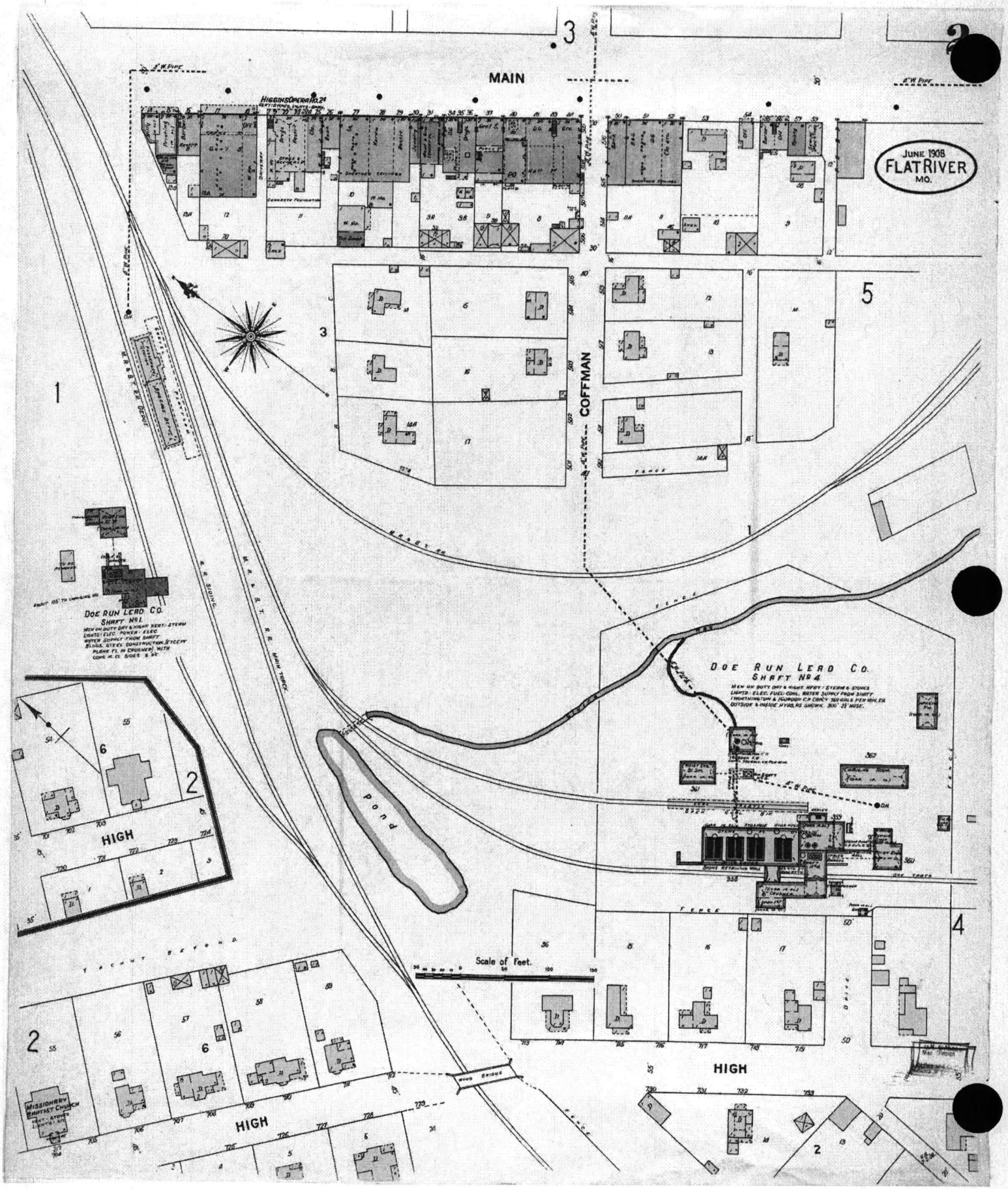
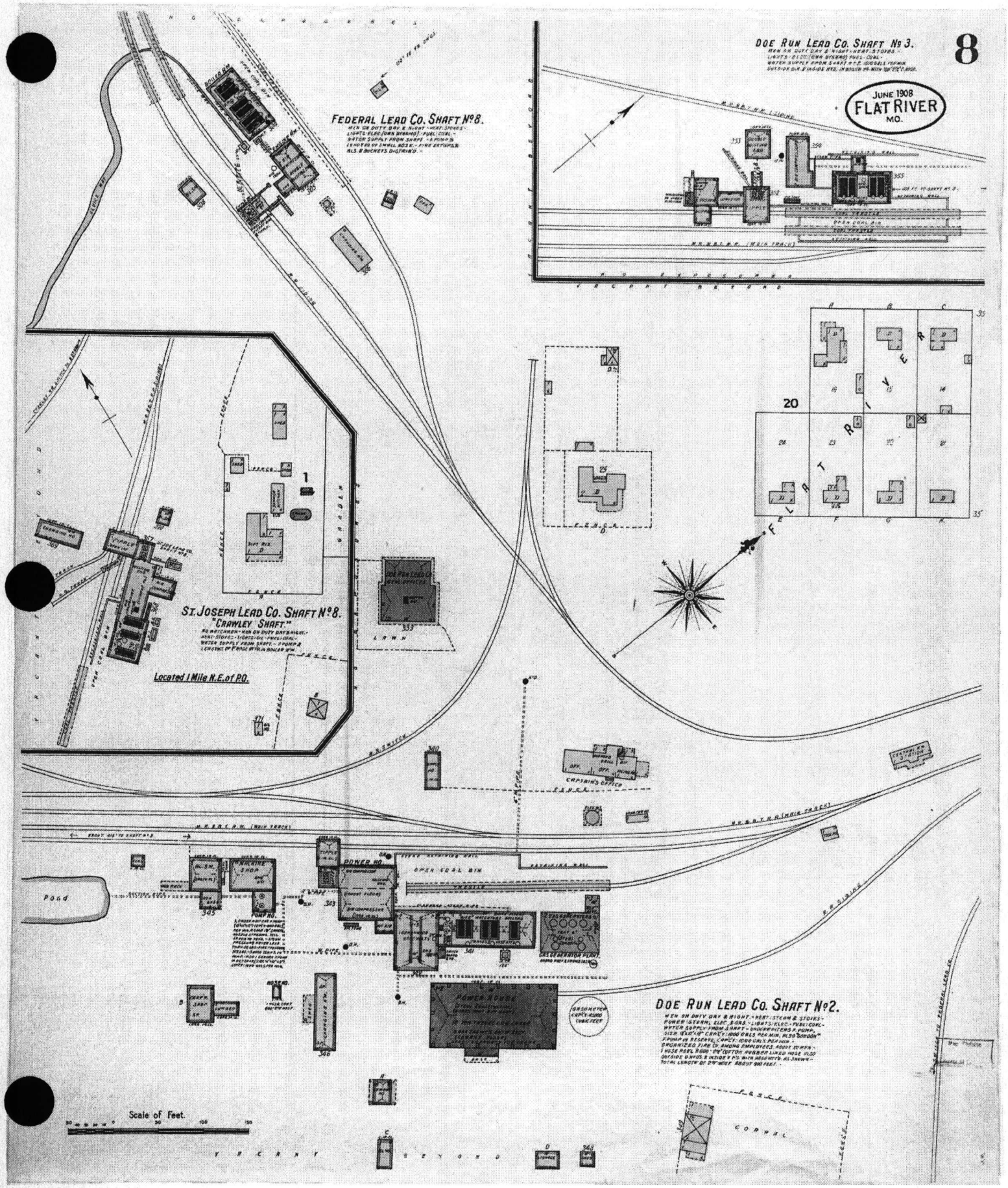
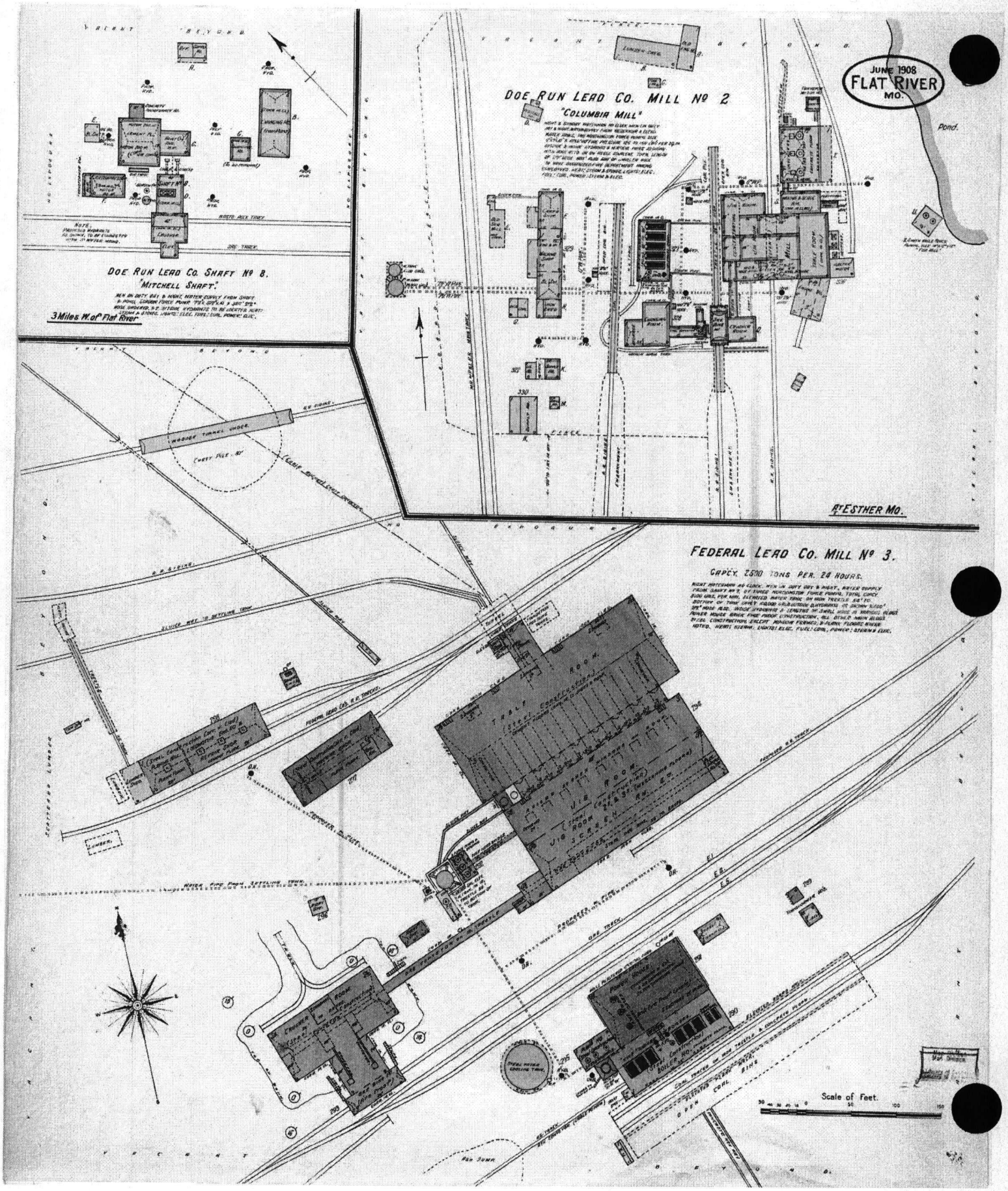
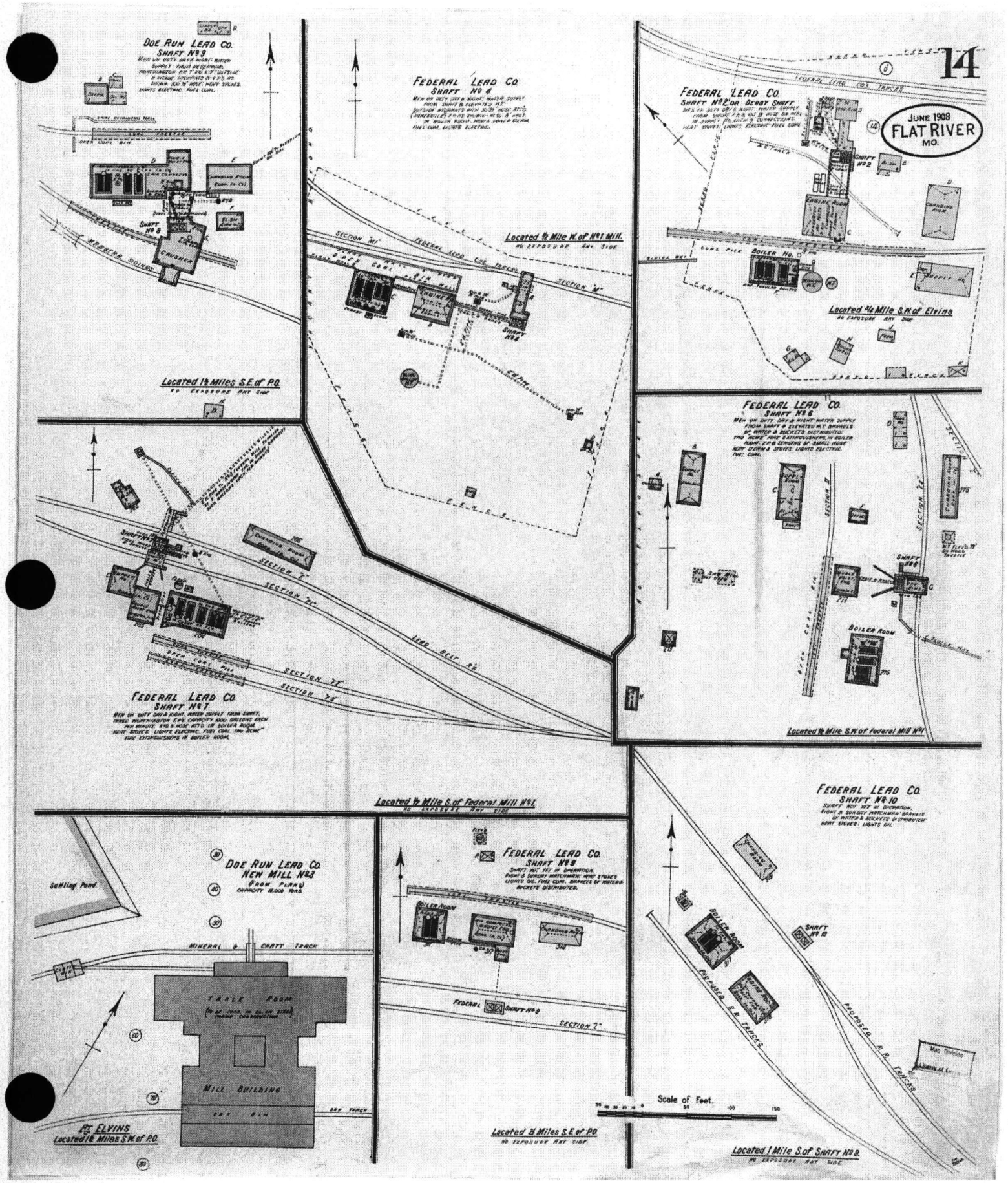

WATER FACILITIES from Doe Run Lead Co. shaft No. 4, by Worthington & Gordon Force pumps, capacity 700 gals. each per min. - Fire pressure 120 lbs per sq. inch -
FIRE DEPT: Not organized -
No fire apparatus except as used & furnished by the Doe Run Lead Co & Lunghts owned by Private Parties -
Fire alarm - Steam whistles - No fire limits -
Public lights - None - Streets not paved - Grades in Flat River - heavy town not incorporated (except Elvins) Buildings on leased lands
SANBORN MAP COMPANY
POPULATION
10000
FLAT RIVER
ST. FRANCOIS CO.
MISSOURI
JUNE
1908
11 BROADWAY, NEW YORK.
INCLUDING TOWNS OF
ELVINS (INCORPORATED) TAYLOR PLACE
ESTHER & DOE RUN.
ST. LOUIS SMELTING & REFINING
ST LOUIS SMELTING & REFINING CO'S LAND
FEDERAL LEAD CO. LAND
CENTRAL LEAD CO.
KEY
INDEX
STREETS.
SPECIALS.
NOTE.—House numbers given are arbitrary.
Scale of Feet.
LYDIA
BENNETT
MAIN
FREE WILL BAPTIST CHURCH
KINGSLAND HOTEL
CORRAL
Flat River 1908


MAIN
COFFMAN
JUNE 1908
FLAT RIVER
MO.
HIGGINS OPERA HO. 2d
DOE RUN LEAD CO.
SHAFT No 1.
DOE RUN LEAD CO.
SHAFT No 4
Pond
HIGH
HIGH
HIGH
Scale of Feet.
MISSIONARY BAPTIST CHURCH
FENCE
4" W. PIPE
M. R. & B. T. R.R. MAIN TRACK
R. R. SIDING
M. R. & B. T. R.R. DEPOT
1
2
3
4
5
6


8
JUNE 1908
FLAT RIVER
MO.
DOE RUN LEAD CO. SHAFT No 3.
FEDERAL LEAD CO. SHAFT No 8.
ST. JOSEPH LEAD CO. SHAFT No 8.
"CRAWLEY SHAFT."
Located 1 Mile N.E. of P.O.
DOE RUN LEAD CO. SHAFT No 2.
FLAT RIVER
CAPTAIN'S OFFICE
POWER HO.
OPEN COAL BIN
MACHINE SHOP
POWER HOUSE
GAS GENERATOR PLANT
Pond
Scale of Feet.
CORRAL


JUNE 1908
FLAT RIVER
MO.
DOE RUN LEAD CO. MILL Nº 2
"COLUMBIA MILL"
AT ESTHER MO.
DOE RUN LEAD CO. SHAFT Nº 8.
"MITCHELL SHAFT."
3 Miles W. of Flat River
FEDERAL LEAD CO. MILL Nº 3.
CAPCY. 2500 TONS PER. 24 HOURS.
TABLE ROOM
JIG ROOM
JIG ROOM
SCREEN
POWER HOUSE
BOILER HO.
OPEN COAL BINS
Scale of Feet.


14
JUNE 1908
FLAT RIVER
MO.
DOE RUN LEAD CO.
SHAFT Nº 9
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FEDERAL LEAD CO.
SHAFT Nº 4
Located ½ Mile W. of Nº1 Mill.
FEDERAL LEAD CO.
SHAFT Nº2 OR DEBAY SHAFT.
Located ¾ Mile S.W. of Elvins
FEDERAL LEAD CO.
SHAFT Nº 6
Located ½ Mile S.W. of Federal Mill Nº1
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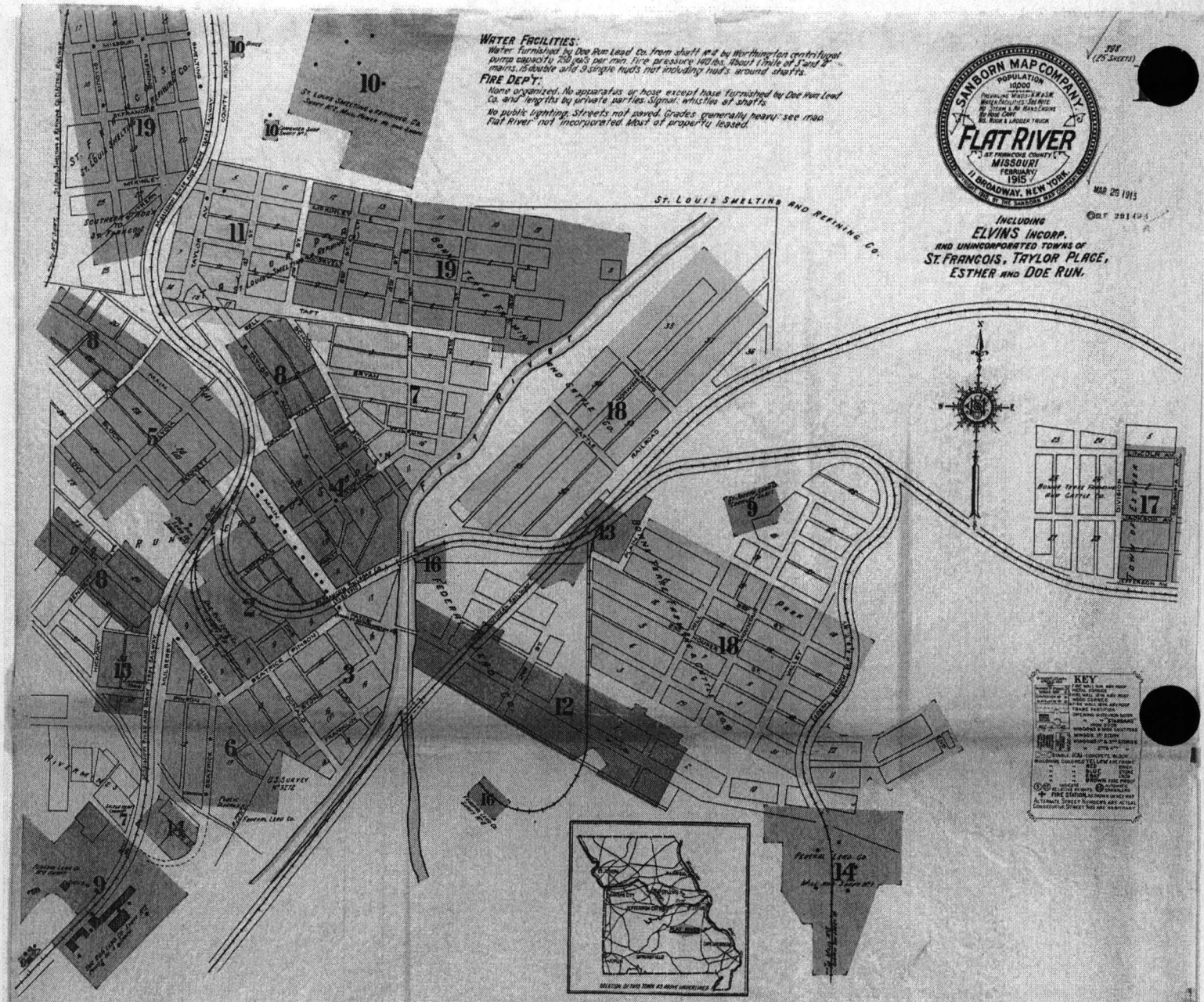
SHAFT Nº 7
Located ½ Mile S. of Federal Mill Nº1
FEDERAL LEAD CO.
SHAFT Nº 10
DOE RUN LEAD CO.
NEW MILL Nº3
(FROM PLANS)
CAPACITY 1000 TONS.
Settling Pond
MINERAL & CRATT TRACK
TABLE ROOM
MILL BUILDING
ORE BIN
ORE TRACK
Nº ELVINS
Located 1½ Miles S.W. of P.O.
FEDERAL LEAD CO.
SHAFT Nº 8
BOILER ROOM
FEDERAL SHAFT Nº 9
SECTION 7
Located ½ Miles S.E. of P.O.
FEDERAL LEAD CO.
SHAFT Nº 10
BOILER ROOM
SHAFT Nº 10
PROPOSED R.R. TRACKS
Scale of Feet.
Located 1 Mile S. of SHAFT Nº 9.



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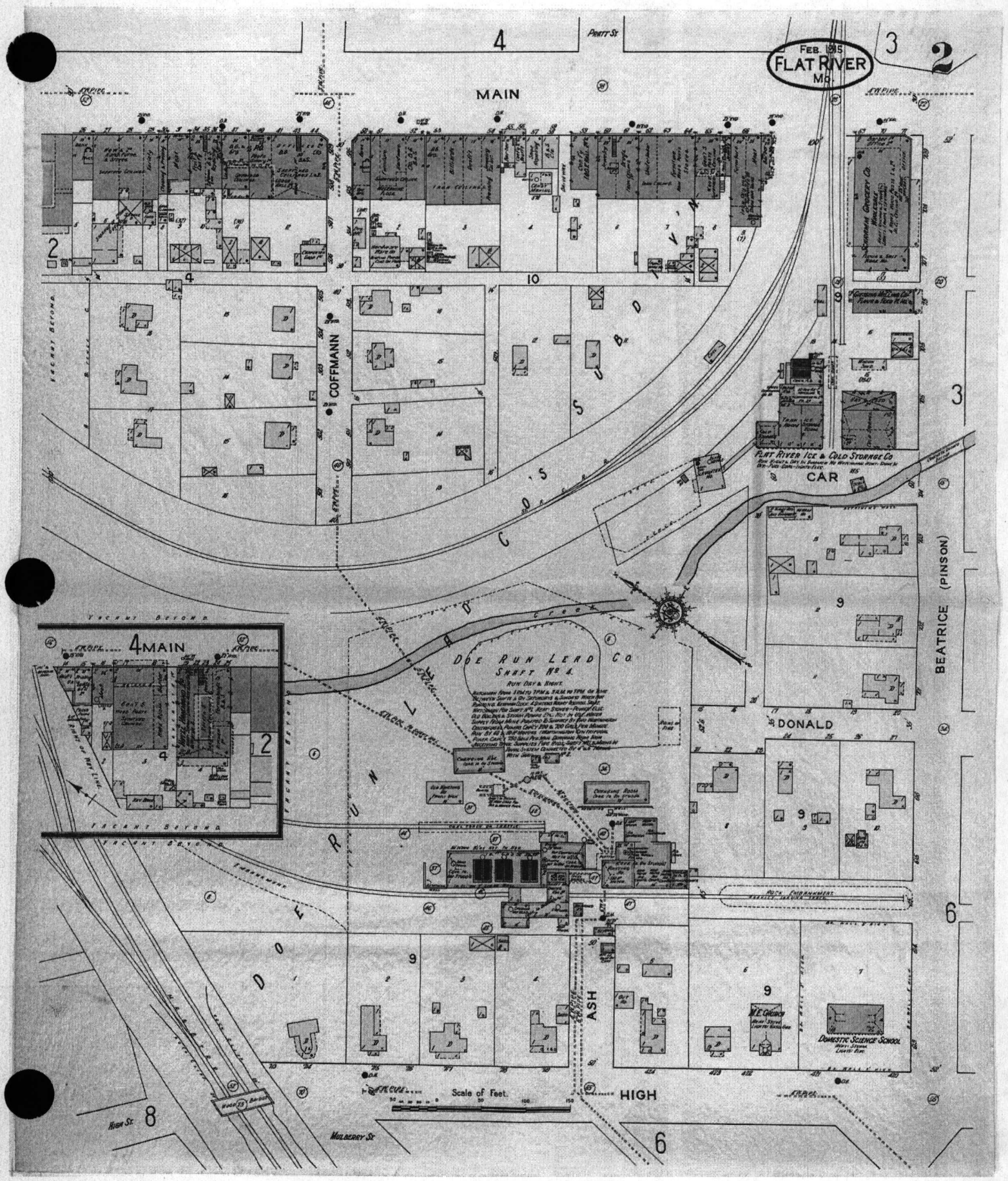
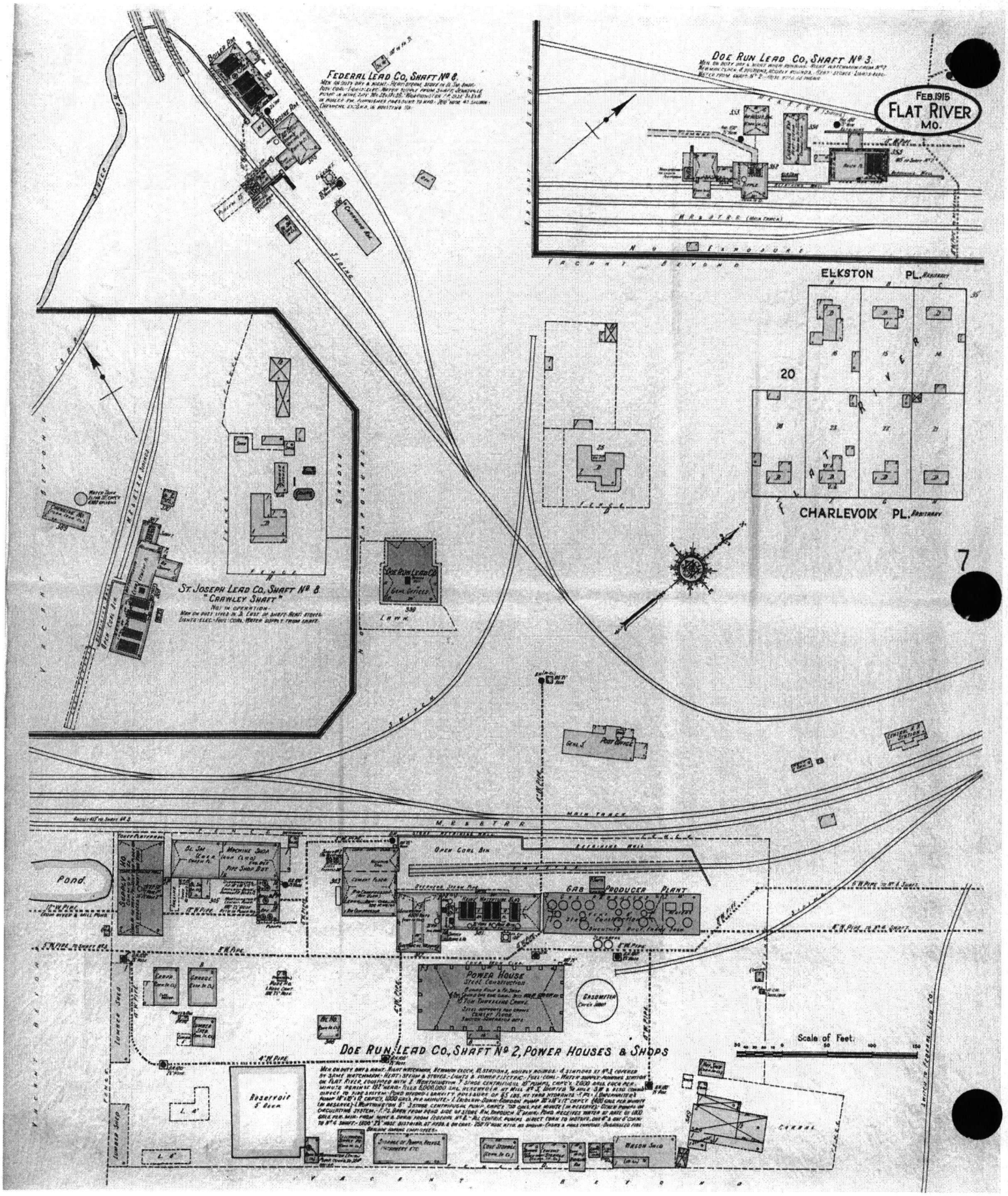
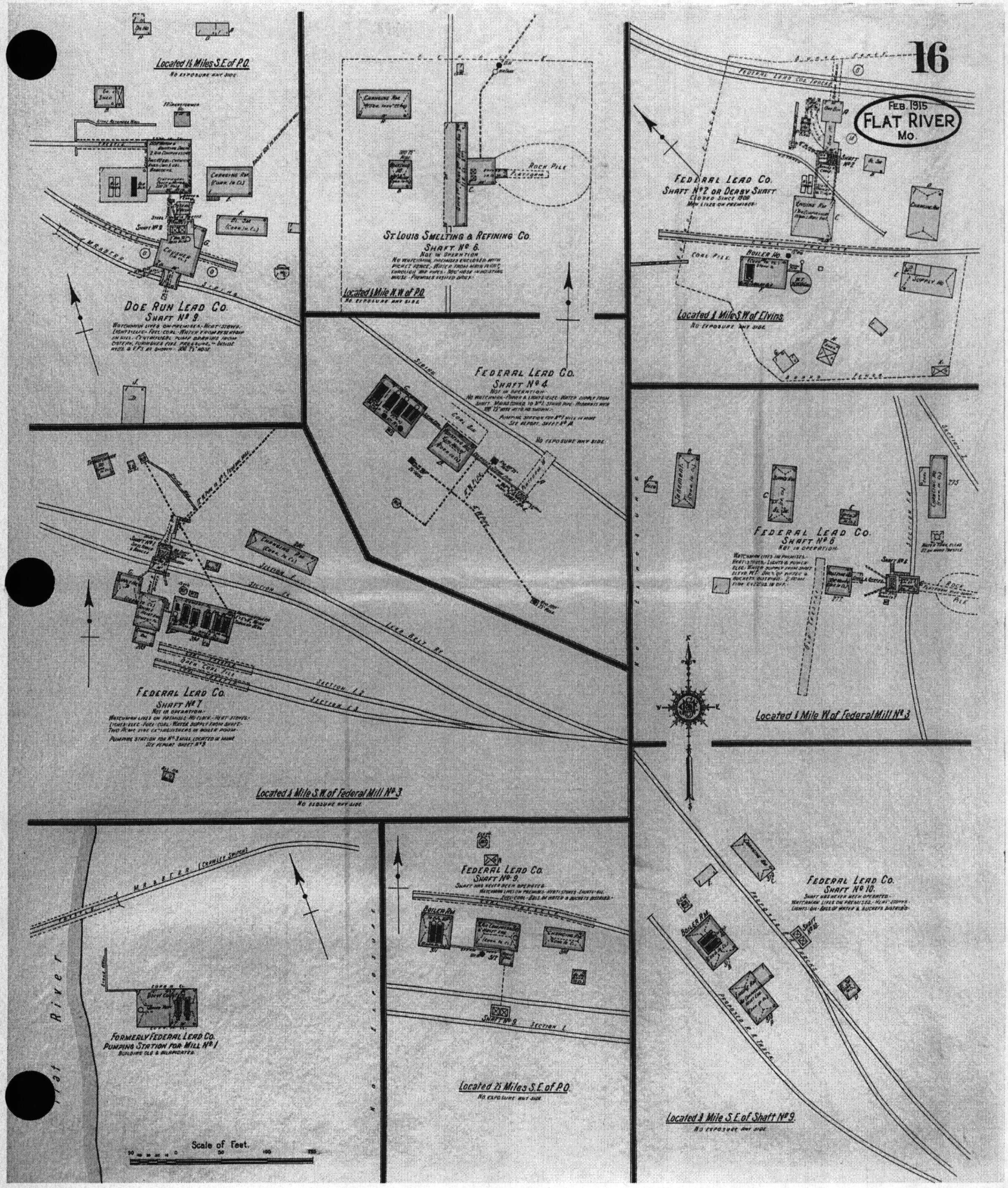
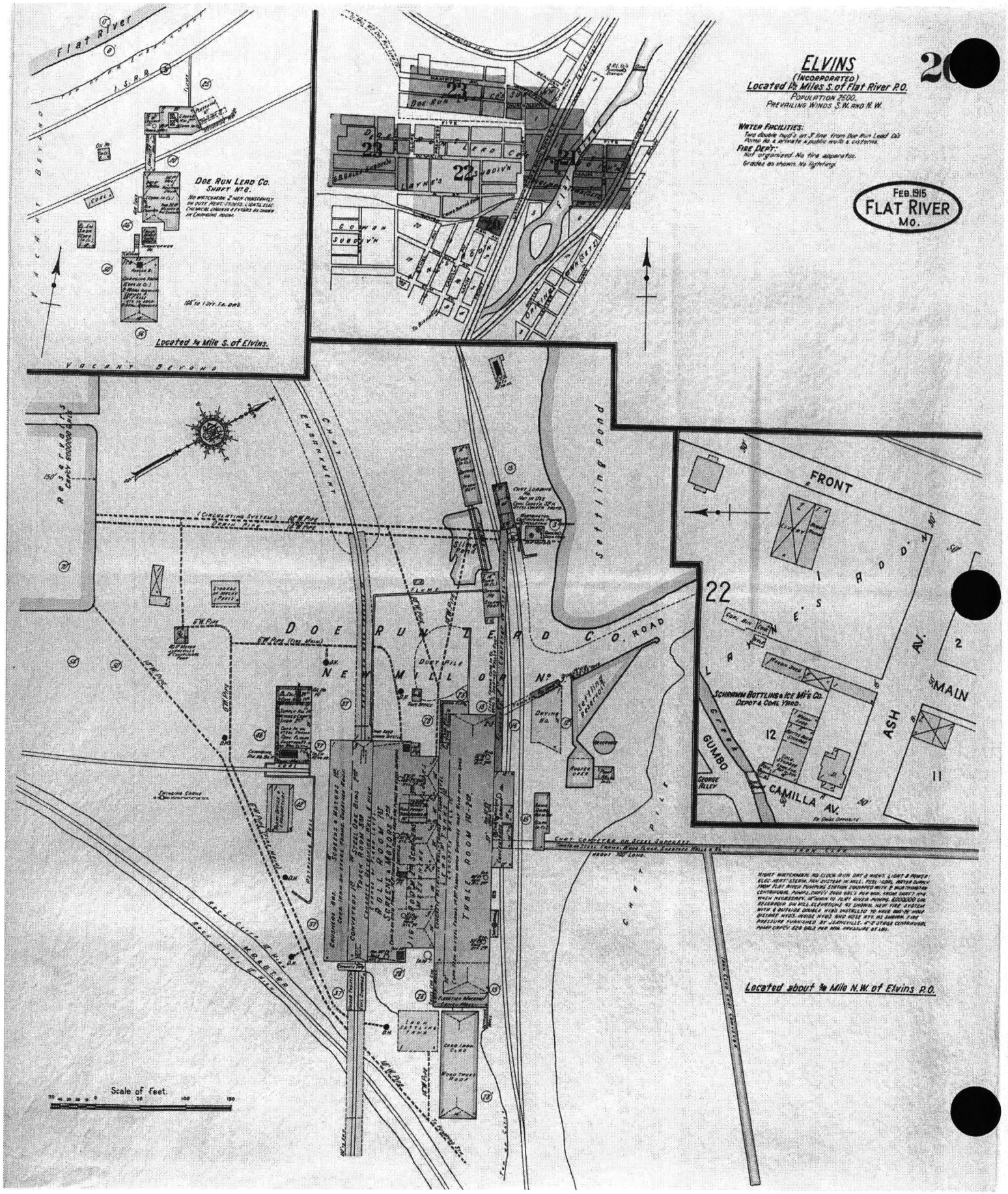
* Indicates only one side of Street shown.

Flat River 1915


FEB. 1915
FLAT RIVER
MO.
MAIN
PRATT ST.
COFFMANN
CAR
BEATRICE (PINSON)
DONALD
ASH
HIGH
DOE RUN LEAD CO.
SHAFT No 4.
FLAT RIVER ICE & COLD STORAGE CO
DOMESTIC SCIENCE SCHOOL
M.E. CHURCH
ROCK EMBANKMENT
VACANT BEYOND
4 MAIN
Scale of Feet.
HIGH ST.
MULBERRY ST.


FEB. 1915
FLAT RIVER
MO.
FEDERAL LEAD CO, SHAFT Nº 8.
DOE RUN LEAD CO, SHAFT Nº 3.
ELKSTON PL.
CHARLEVOIX PL.
ST. JOSEPH LEAD CO, SHAFT Nº 8
"CRAWLEY SHAFT"
DOE RUN LEAD CO.
GEN. OFFICES
POST OFFICE
MAIN TRACK
M. R. & T. R. R.
OPEN COAL BIN
GAS PRODUCER PLANT
POWER HOUSE
Steel Construction
GASOMETER
Pond
Reservoir
DOE RUN LEAD CO, SHAFT Nº 2, POWER HOUSES & SHOPS
Scale of Feet.
VACANT BEYOND
NO EXPOSURE
7


16
FEB. 1915
FLAT RIVER
Mo.
Located 1½ Miles S.E. of P.O.
No exposure any side.
DOE RUN LEAD CO.
SHAFT No. 9.
ST. LOUIS SMELTING & REFINING CO.
SHAFT No. 6.
Located ½ Mile N.W. of P.O.
No exposure any side.
FEDERAL LEAD CO.
SHAFT No. 2 OR DERBY SHAFT
Located ½ Miles S.W. of Elvins
No exposure any side.
FEDERAL LEAD CO.
SHAFT No. 4.
No exposure any side.
FEDERAL LEAD CO.
SHAFT No. 7.
Located ½ Mile S.W. of Federal Mill No. 3.
No exposure any side.
FEDERAL LEAD CO.
SHAFT No. 5
Located ½ Mile W. of Federal Mill No. 3.
FORMERLY FEDERAL LEAD CO.
PUMPING STATION FOR MILL No. 1
FEDERAL LEAD CO.
SHAFT No. 9.
Located 2½ Miles S.E. of P.O.
No exposure any side.
FEDERAL LEAD CO.
SHAFT No. 10.
Located ¾ Mile S.E. of Shaft No. 9.
No exposure any side.
Big River
Scale of Feet.


ELVINS
(INCORPORATED)
Located 1½ Miles S. of Flat River P.O.
POPULATION 2500.
PREVAILING WINDS S.W. AND N.W.
WATER FACILITIES:
Two double hyd's on 3" line from Doe Run Lead Co's Pump No. 6 private & public wells & cisterns.
FIRE DEPT:
Not organized. No fire apparatus.
Grades as shown. No lighting.
FEB. 1915
FLAT RIVER
MO.
Flat River
DOE RUN LEAD CO.
SHAFT No. 6.
Located ¼ Mile S. of Elvins.
VACANT BEYOND
Settling Pond
FRONT
LAYNE'S ADD'N
ASH AV.
MAIN
SCHRAMM BOTTLING & ICE MFG. CO.
DEPOT & COAL YARD.
GUMBO
CAMILLA AV.
DOE RUN LEAD CO.
NEW MILL OR No. 1
ROAD
Settling Reservoir
Dry Pile
Chat Pile
Located about ¾ Mile N.W. of Elvins P.O.
Scale of Feet.

NATIONAL REPORTER SYSTEM — STATE SERIES

THE

SOUTHWESTERN REPORTER

VOLUME 223

PERMANENT EDITION

COMPRISING ALL THE CURRENT DECISIONS OF THE

SUPREME AND APPELLATE COURTS OF ARKANSAS
KENTUCKY, MISSOURI, TENNESSEE
AND TEXAS

WITH KEY-NUMBER ANNOTATIONS

AUGUST 25 — OCTOBER 6, 1920

ST. PAUL
WEST PUBLISHING CO.
1920

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opinion it was not, and illustrated his position this way:

"Take it strictly from the scriptural standpoint; it says, 'He that believeth shall be saved; he that believeth not shall be damned.' God wasn't cursing when he said that."

But whether "damn" is swearing or cursing, or what not, both these parties used the word on occasion, and therefore neither can claim an advantage from having been damned by the other.

The letter referred to above should have little weight attached to it. It was dated the 13th of September, 1919, and the envelope was postmarked at St. Louis, September 15th. It was addressed to defendant and signed by the letter "P.," reading as follows:

"Mattie Darling: I will take the liberty to write you today. Since you have not responded to my Previous letter I have began to think that things must be working slowly for you, in regards to getting the big sum of money as you had Planed to get from your husband, or the old Country Doctor, as you call him. I hope everything will work out in your favor. I so often think of the happy hours that we have spent together and wish for that time to Come again, which I except soon. As you have Promest me that is if you could get the amount of money that you want from him. It is quite lonely for me since we have been apart so long. I hope it will not be this way much longer, as you know all of my love is for you and there is no Pleasure for me without you. I wish you much success in what you have Planed, and that everything will turn out in your favor, so that we can happiely be togather again. I shall look for an early reply with love I remain as ever Yours."

Plaintiff's idea is that the letter shows that defendant had no respect or affection for him and was only seeking money, while defendant says it was manufactured by some one to injure her. She never received it, nor saw it until the trial. It did not purport to be an answer to a letter from her. Plaintiff testified it was delivered to him, with his mail, by the carrier; that he opened it and kept it "for just such occasion as this." We think it not convincing either way. There is just as much ground for thinking it concocted against her as there is that she had a confidant who was recapitulating what had passed between them.

Coming to defendant's case against plaintiff, we do not find it would justify a decree in her favor. It will be remembered that when the petition was filed they had only been married a little more than three months. We think this a very short time for the development of indignities of the character testified to, rendering a condition intolerable. There is no charge of adultery by either party, and defendant stated at times the only thing she held against plaintiff was the Wright woman acting as help or servant in the house; and, through her counsel, she stated this to the court at the close of the evidence: "We announce now in open court that we are ready to go home with the doctor (plaintiff) and live there and do our duty to him as a wife."

After a thorough examination of the evidence, we think the trial court's conclusion right, and affirm the judgment.

All concur.

HOLMES v. DOE RUN LEAD CO. et al. (ST. JOSEPH LEAD CO., Interpleader). (No. 15888.)

(St. Louis Court of Appeals. Missouri. June 8, 1920.)

1. Appeal and error ⟹1009(1) — Appellate court will defer to findings of chancellor on oral evidence.

While in equity the appellate court is not bound by the fact findings of the chancellor, yet where much of the testimony was oral, and the ultimate result depends upon the credibility of witnesses, no little deference must be given to the findings of the trial judge.

2. Corporations ⟹121(5)—Finding that purchaser of stock did not have notice stock was subject to agreement warranted.

In a suit to compel the transfer of stock on the books of a corporation, the chancellor's finding that plaintiff on purchasing the stock did not have notice that the stock was subject to the terms of a reorganization scheme, and was to be exchanged for the stock of another corporation, *held* warranted under the evidence.

3. Notice ⟹5—Indirect, implied, or presumptive notice is "actual notice," and not "constructive notice."

"Constructive notice" is that notice which is fastened upon one by an irrefutable presumption of law, as by the recording of an instrument under the recording acts, and so there could be no constructive notice that corporate stock purchased by plaintiff was subject to a reorganization scheme, although, of course, there might be indirect, implied, or presumptive notice of the fact, which is a species of "actual notice."

[Ed. Note.—For other definitions, see Words and Phrases, First and Second Series, Actual Notice; Constructive Notice.]

4. Corporations ⟹119—Presumption of knowledge in respect to character of stock rebutted, where inquiry fails to elicit information.

While anything which puts a person on inquiry is said to amount to notice, and it will be presumed had inquiry been made information would have been obtained, yet where plaintiff made proper inquiry as to whether corporate stock which he purchased was subject to reorganization scheme, but did not succeed

⟹For other cases see same topic and KEY-NUMBER in all Key-Numbered Digests and Indexes

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in eliciting the information, the presumption is rebutted, and he is not chargeable with notice.

5. Estoppel ⟹116—One asserting estoppel has the burden of proof.

Where the interpleader asserted that plaintiff's position was such that he could not acquire corporate stock adverse to its plan to secure a merger of the other corporation with itself, interpleader has the burden of proof.

6. Corporations ⟹316(3)—Director of corporation seeking merger with another corporation held entitled to purchase stock in latter.

Though plaintiff had been a director of the interpleader, a corporation which was seeking to effect a merger with another by acquiring its stock, and had assisted the interpleader in that purpose, yet, where plaintiff had been displaced and controversies had arisen between him and those in control of interpleader, he cannot be deemed to hold as trustee of stock which he thereafter acquired in the second corporation.

Appeal from Circuit Court, St. Francois County; Peter H. Huck, Judge.

"Not to be officially published."

Action by Robert Holmes against the Doe Run Lead Company and others, in which the St. Joseph Lead Company filed petition of intervention and interpleader. From a judgment for plaintiff, the St. Joseph Lead Company appeals. Affirmed.

Nagel & Kirby, of St. Louis, for appellant.

Jourdan, Rassieur & Pierce, of St. Louis (Benj. H. Marbury, of Farmington, of counsel), for respondent.

ALLEN, J. This suit involves the title to 23 shares of stock of the Doe Run Lead Company, a Missouri corporation, hereinafter termed the Doe Run Company. The conflicting claimants to such stock are the plaintiff, Robert Holmes, a resident of the city of St. Louis, respondent here, and the St. Joseph Lead Company (hereinafter termed the St. Joe Company) interpleader below, appellant here. Plaintiff claims the absolute and unqualified title to the stock, under a purchase made by his broker at a public foreclosure sale in the city of St. Louis, made by the National Bank of Commerce of said city, to which the stock had been pledged as collateral security by one Charles G. Ricker.

The appellant interpleader claims under a contract signed by said Ricker, his wife, and son, while they owned the shares in question, providing for the exchange thereof (subject to the lien of the Bank of Commerce) for shares of stock of the St. Joe Company, which said contract was consented to by the bank, though the bank later sold the stock in disregard of said agreement and without notice that the stock was subject thereto. It is the claim of the interpleader that plaintiff, Holmes, knew, or was affected with notice, of the fact that the stock was subject to such agreement, and therefore acquired it subject thereto.

The suit was instituted December 4, 1915, against the Doe Run Company, one Dearing, alleged to be the secretary of the company, and one Adami, alleged to be the vice president in charge thereof, seeking to compel the transfer of said stock to plaintiff on the books of the Doe Run Company.

The petition alleges that on January 26, 1914, one Montgomery was the owner of 23 shares of stock of the Doe Run Company, evidenced by certificate No. 3024 for 3 shares and certificate No. 3023 for 20 shares; that on April 16, 1915, Montgomery transferred and assigned to plaintiff said certificate No. 3023, and signed a power of attorney to transfer the stock on the books of the corporation; that on the same day Montgomery transferred and assigned to A. H. Fisher, B. H. Marbury, and L. W. Childress, for plaintiff, said certificate No. 3024, and that Fisher, Marbury, and Childress assigned and transferred the same to plaintiff. It is alleged that on December 4, 1915, plaintiff made demand on the defendants for the issuance to him of certificates of stock in lieu of the above certificates, and that defendants refused so to do. The prayer of the petition is for a decree ordering the defendants to transfer the shares to plaintiff on the books of the company and to issue to plaintiff new certificates therefor.

The joint answer of defendants, after admitting the incorporation of the Doe Run Company, avers that defendants are not possessed of sufficient knowledge or information to form a belief as to whether said Montgomery was on January 26, 1914, the owner of said certificates Nos. 3023 and 3024, for a total of 23 shares of stock in defendant corporation, or whether plaintiff is the bona fide holder and owner of said certificates. The answer further alleges that the St. Joe Company claims to be the owner of and equitably entitled to said 23 shares of stock, by virtue of a certain written contract for the sale of said stock to it, executed by Charles G. Ricker, Nelson D. Ricker, and Sallie D. Ricker, who were the owners of the stock at the time of the execution of such contract; that after the execution of the contract the stock was transferred to Montgomery, and certificates numbered 3023 and 3024 were issued to him as trustee for the three Rickers and the National Bank of Commerce in St. Louis; that plaintiff had full knowledge and notice of said contract prior to the acquisition of any rights which he may have to such stock; that defendants have notice of the claim of the St. Joe Company; that defendants claim no interest in said

⟹For other cases see same topic and KEY-NUMBER in all Key-Numbered Digests and Indexes

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shares of stock, but are ready and willing to transfer the same to whomsoever may be determined to be the rightful owner thereof. And the answer prays for an order making the St. Joe Company a party to the suit and that it be required to interplead with plaintiff herein.

The record recites that after a hearing on the issues thus made by the petition and answer the court made an order requiring that the St. Joe Company interplead in the cause, and that pursuant to such order the St. Joe Company "filed its petition of intervention or interpleader." This pleading alleges that the St. Joe Company "asserts a claim of right" adverse to that of plaintiff to the said shares of stock, based upon facts which are alleged, in substance, as follows: That the St. Joe Company is a New York corporation licensed to transact business in this state, and engaged in mining and smelting lead ores, having the charter power to own stock in corporations engaged in a business substantially similar to that in which it is engaged (pleading a statute of New York purporting to confer such power); that the Doe Run Company is a Missouri business and mining corporation, owning large lead properties adjacent to those of the St. Joe Company, and is engaged in mining and concentrating lead ore; that the Doe Run Company was organized by persons who were then holders of substantial amounts of stock of the St. Joe Company, and since its organization a large majority of its stock has been held by owners of substantial amounts of stock of the St. Joe Company; that plaintiff for many years was a holder of stock in both companies; that since the organization of the Doe Run Company, and with the consent of plaintiff, the business relations of the two companies have been very close; that the Doe Run Company has had no smelter of its own, and the St. Joe Company has had the only smelter in the district; that it was to the advantage of both companies to sustain close relations, in that the St. Joe Company had a large and more constant supply of ore to be treated, while the Doe Run Company found a constant, convenient, and desirable market for its lead ores; that in 1913 the Doe Run Company owed approximately $4,000,000 of which $2,000,000 was represented by bonds maturing March 1, 1915, the remainder being floating debts, the greater part of which were owed to the St. Joe Company or to companies controlled by it; that a joint committee of the stockholders of both companies was appointed, which committee recommended that the respective properties and businesses of the two companies be consolidated and merged along lines suggested, and this report was approved by the board of directors of each company, and notice thereof was sent to all of the stockholders of the Doe Run Company, together with copies of an "agreement and proxy" to be signed by each stockholder and sent in; that by such agreement and proxy it was provided that the same should become effective when signed by holders of 80 per cent., in par value, of the outstanding stock of the Doe Run Company, and it was further provided that the merger might be effected through a purchase by the St. Joe Company of either the properties or the stock of the Doe Run Company; that on November 17, 1913, the holders of more than 91 per cent. of the stock of the Doe Run Company, including plaintiff had executed said agreement and proxy, and on that date the stockholders of the Doe Run Company were notified of that fact, and at a meeting of the stockholders of the Doe Run Company, held on December 6, 1913, the holders of 90 per cent. in amount of the outstanding stock of said company, including plaintiff and the holders of the stock here in controversy, voted to ratify the action of the board of directors in approving and adopting the recommendation of said joint committee; that the St. Joe Company elected to purchase the stock of the Doe Run Company, and gave the stockholders of the latter company notice of that fact, and did thereupon purchase more than 91 per cent. of all the stock of the Doe Run Company; that Charles G. Ricker had owned 15 shares, Nesion D. Ricker 5 shares, and Sallie D. Ricker 3 shares of the stock of said company, and each of said persons signed the agreement and proxy; that the stock certificates evidencing said 23 shares of stock were then held by the National Bank of Commerce in St. Louis as collateral to secure a loan, and said bank consented to the signing of the agreement and proxy by the three owners of said stock; that thereafter, in January, 1914, the bank requested a transfer of the stock on the books of the corporation to one Montgomery, and in writing confirmed its previous consent that the stock be bound by said agreement and proxy, and agreed that if such shares were transferred to Montgomery the bank would cause the new certificates to be indorsed and delivered, for the purpose of exchange, in accordance with the agreement and proxy; that the new certificates were issued to Montgomery, but the bank failed to deliver them for exchange; that plaintiff claims to have acquired said shares of stock, but if he did so it was with notice or knowledge that the stock was subject to said agreement and proxy, and plaintiff holds any interest that he may have in said stock to the terms of said agreement and proxy; that the stock of the Doe Run Company is not listed on the market and cannot be readily obtained elsewhere; that its value is not readily or definitely established, but it has a peculiar value to this interpleader; that the

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interpleader has no adequate remedy at law; and that tender and demand were made in accordance with the agreement and proxy. The prayer of the interpleader is that plaintiff be required to answer the interplea, and that a decree be entered finding that the interpleader, the St. Joe Company, is entitled to the stock in controversy, requiring plaintiff to deposit the certificates therefor, indorsed in blank, with the clerk of the court, to be by the clerk delivered to the St. Joe Company, requiring the St. Joe Company likewise to deposit the certificates of its stock and the cash, tendered to plaintiff as aforesaid, to be delivered to plaintiff, and requiring the Doe Run Company to transfer the stock in controversy on its books to the interpleader, St. Joe Company, and for other relief.

To this interplea plaintiff filed an answer denying each and every allegation therein contained, except such as were specifically admitted. The answer admits the incorporation of the St. Joe Company and of the Doe Run Company, and that both were engaged in the business stated in the interpleader's petition; that plaintiff for many years had been a holder of stock in both companies; that the Doe Run Company owed approximately $4,000,000, of which $2,000,000 was represented by bonds maturing March 1, 1915; that the said merger was attempted, and that the plan therefor suggested by the board of directors of said companies was approved; and that the stock certificates held by the Rickers were deposited with and held by the National Bank of Commerce in St. Louis as collateral. The answer then alleges that plaintiff bought the said 23 shares of stock at a public sale; that prior to such sale he was informed that the stock was not subject to said agreement and proxy; and that thereupon he purchased and paid for the stock and demanded that the Doe Run Company transfer it to him on the company's books, which said company refused to do. The answer concludes with a prayer for the dismissal of the interpleader's petition and that a decree be entered as prayed for in plaintiff's petition.

The record does not show the filing of any reply by the interpleader to this answer, but the cause was tried as though the new matter alleged in the answer were denied. Upon the issues thus framed between the plaintiff and the interpleader the cause was tried before the court, resulting in a decree in favor of the plaintiff, from which the interpleader, St. Joe Company, prosecutes this appeal.

It is admitted that the two companies were incorporated as alleged by the interpleader, and that the St. Joe Company was duly licensed to transact business in this state. The statute of New York, pleaded in the interpleader's petition, was introduced in evidence. From the admissions of counsel and the evidence adduced, it appears that the St. Joe Company is the older and larger company; that the Doe Run Company was incorporated chiefly by stockholders of the St. Joe Company, the properties of the two companies being adjacent; that the smelting of the lead ores for both companies was done by the St. Joe Company; and that close business relations had existed between the companies for many years, with the knowledge of the stockholders of both. At the beginning of the year 1913 the Doe Run Company was involved in serious financial difficulties, as alleged, resulting in the appointment of the joint committee, mentioned in the pleadings, for the purpose of providing for an investigation of the Doe Run Company, and to consider the question of consolidating the two companies.

In this connection it may be noted that plaintiff, it appears, had been making extensive investigations concerning the affairs of both companies, in behalf of himself and the members of his family, who were large holders of stock in both companies. And it further appears that plaintiff had instituted suits assailing the management of the companies, one suit having been instituted against the St. Joe Company in the city of New York, and the other against the Doe Run Company in the circuit court of St. Francois county, Mo. Both of them were pending at the time of the appointment of said joint committee and while its investigations were in progress.

At the suggestion of plaintiff, Mr. M. F. Watts, plaintiff's counsel, was made a member of this joint committee, as plaintiff's representative. After an investigation extending over several months the joint committee made its report, which report was approved and ratified by the board of directors of each company. The report recommended a consolidation of the two companies, either through the acquisition by the St. Joe Company of the properties of the Doe Run Company, or by acquiring the stock of the latter company. In order to carry into effect the recommendation of the committee, copies of the "agreement and proxy" mentioned in the pleadings were sent to the holders of the stock of the Doe Run Company.

By that instrument, dated April 10, 1913, each Doe Run stockholder who signed the same thereby agreed that a consolidation of the companies might be effected, either by an exchange of shares of the Doe Run Company for a fixed amount of stock of the St. Joe Company and cash—one share of Doe Run stock (par value $100) to be exchanged for 7.6 shares of St. Joe stock (par value $10) and a cash payment—or by sale of the Doe Run properties to the St. Joe Company.

Plaintiff signed the agreement and proxy, and upon his advice all of the members of his family did likewise. It is said that by December 26, 1913, the holders of 57,831 shares

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of the stock of the Doe Run Company, out of 65,733 shares outstanding, had signed this agreement and proxy; and some time prior to December 1, 1913, signed agreements and proxies had been sent in for the 23 shares here in controversy, then owned by the three members of the Ricker family mentioned above, with the consent of the Bank of Commerce, which held the stock as collateral for a loan of Charles G. Ricker.

Among other things the joint committee recommended that the two suits above mentioned, brought by plaintiff, be settled and dismissed upon the payment to plaintiff of his costs and expenses therein, and this was done. As a part of this settlement, plaintiff and his attorney, Watts, became directors of the St. Joe Company. Plaintiff then began to co-operate with the officers and directors of the company and stated that he would try to influence the stockholders of the Doe Run Company who had not already done so to agree to exchange their stock under the plan mentioned by signing the agreements and proxies.

The St. Joe Company elected, under "the agreement and proxy," to acquire by exchange stock of the Doe Run Company rather than the property of the latter. It accordingly called for the deposit of the certificates of stock of the Doe Run Company, for exchange, pursuant to the "agreement and proxy"; and it appears that more than 91 per cent. of the shares of the Doe Run Company, including those of plaintiff and his family, were thus acquired by the St. Joe Company in December, 1913, and January, 1914.

In January, 1914, the bank requested the Doe Run Company to transfer the 23 shares here in controversy to one Montgomery, then an employé of the bank. The Doe Run Company thereupon called the attention of the bank to the fact that these shares were subject to the agreement and proxy, and it appears that the bank then confirmed its prior consent thereto, and expressly agreed that if the shares were issued to Montgomery, as requested, the bank would turn them in for exchange under the agreement. And the stock was thereupon transferred to Montgomery and new certificates issued to him therefor.

After the settlement with plaintiff, above mentioned, by virtue of which he became a member of the board of directors, it appears that he remained a member of such board until February, 1915, when, upon the election of a new board, plaintiff was not re-elected. Just why this occurred is not made clear by the evidence in the record before us. But it is clear that prior to the settlement mentioned plaintiff was attacking the management of both said companies, and that a feeling of hostility existed between him and the other large stockholders who were in control of the affairs of both companies, including one Crane, president of the St. Joe Company, and that after this settlement, during the year 1914, plaintiff was co-operating with the management of the companies. It is clear that he favored the merger and that he and all of the members of his family co-operated to the extent, at least, of signing agreements and proxies for all the stock then held by them, though plaintiff's testimony shows that he was not as active in his efforts to procure the signing of these agreements and proxies by the stockholders as indicated by his letters during that period.

From the time when plaintiff was dropped as a member of the board of directors until the purchase by him of the stock in controversy, the relations existing between him and those in control appears only by way of inference. It appears that both he and Crane had instructed their respective brokers in the city of St. Louis to be on the lookout for "free" stock of the Doe Run Company, in order to acquire the same. And it appears that plaintiff's object in acquiring such stock was to obtain control of the Doe Run Company, if possible; the plan involving the taking of steps to prevent the St. Joe Company from voting the stock of the Doe Run Company held by it, on the ground that the former had no power to own and hold such stock. On the other hand, it appears that those in control of the St. Joe Company, headed by Crane, the president, had caused 1,200 shares of the stock of the Doe Run Company to be kept free from the "agreement and proxy," and that, at Crane's suggestion, this stock was later sold to one Chubb, a resident of the city of New York; 1,197 shares being transferred to Chubb and 1 share each to three other persons. It is said that this stock was so transferred in order that, if the courts of Missouri should hold that the St. Joe Company could not vote the stock held by it in the Doe Run Company, the control of the Company would nevertheless be "in hands that were friendly," and "to prevent unfriendly and incompetent men from controlling the company." Crane testified to this, and testified that there was no agreement "between the company and Mr. Chubb about the stock," because he "was aware that no such agreement should be made."

The only evidence tending to show that after the transfer of these shares to Montgomery in January, 1914, the St. Joe Company took any steps to effect an exchange thereof, is the testimony of one Besson, secretary of the St. Joe Company, who testified that in January, 1915, while in St. Louis, he saw Mr. Mitchell, assistant to the president of the Bank of Commerce, who, he said, told him that the bank was ready and willing to exchange the stock. According to Besson's testimony Mitchell was leaving the bank in haste to keep an appointment, as he said, and the witness left with the understanding that

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the matter would be attended to. Mitchell testified that he had no recollection of any such interview with Besson.

In April, 1915, the bank foreclosed its lien on the stock by public sale thereof at the courthouse door in the city of St. Louis. It appears that prior to the insertion of the published notice of sale the bank's attorney, Mr. Edwards, telephoned to plaintiff, asking plaintiff to come to see him, and that pursuant thereto plaintiff called upon Edwards and had a conversation with him as to the stock. Plaintiff testified that in this conversation Edwards said, "We have some Doe Run and some St. Joe stock that we are going to sell;" that plaintiff said, "You mean the Ricker estate?" to which Edwards replied, "Yes." And plaintiff further testified that he offered then to buy the Doe Run stock, but that Edwards said that it would be necessary to sell it at public auction. It appears from the evidence that the "Ricker Estate" owned certain stock which was not subject to these agreements and proxies. When asked, on cross-examination, whether he knew it was collateral of Charles G. Ricker that the bank held, and that they were proposing to sell, plaintiff replied:

"I did not. I stated that I asked if it was Ricker Estate. I labored under that impression when I left because I had bought Ricker Estate a month before. If I had known it was under the agreement, do you suppose I would have bought it at $125, when there was an express agreement attached to it to turn it in at $76? I am not that big a fool."

Notice of the sale was published by the bank in the Daily Record, a newspaper in the city of St. Louis. The evidence shows that after this notice had been published two or three days plaintiff called the attention of his broker, one Fisher, thereto. Fisher, who knew of the effort to have the stockholders of the Doe Run Company sign agreements for exchange of the stock, testified that he went to the Bank of Commerce and made inquiry of Mitchell as to whether or not this stock was covered by the "option agreement," and was assured by Mitchell that it was not, that it was entirely free from any such obligation; and that in this conversation Mitchell inquired of him as to the probable value of the stock, and the witness stated that if covered by the option agreement it would be worth approximately $55 per share, but if not covered by that agreement it was worth perhaps $125 to $150 per share. Mitchell testified that he recalled a conversation with Fisher at about the time mentioned, but had no recollection of anything being said about an option agreement. On cross-examination, Fisher said:

"No one had told me that the Ricker shares were covered by this agreement and proxy; on the contrary, they told me it was not covered."

Plaintiff instructed his said broker to purchase the stock at the sale. It appears that plaintiff's father was seriously ill at the time and that he died the day prior to the sale, and hence plaintiff gave the matter no personal attention. In this connection Fisher further testified:

"Mr. Holmes did not suggest to me that I go to the bank and make inquiry about the stock, nor did he tell me any more by way of instructions than what I have stated. He told me to go to the sale and buy the stock and to use my judgment in purchasing it. He put no limit of price on it; he left that to me."

The stock was sold pursuant to the notice; no announcement being made at the time or notice given that the stock was sold subject to the agreement or to any other claim. The evidence shows that plaintiff's broker paid for the stock at $125 per share, and that it was afterwards presented to the Doe Run Company with the request that it be transferred on the books of the company, and that the Doe Run Company declined to transfer it.

Further reference will be made to the evidence in the course of the opinion.

The first point in appellant's brief is that, since the suit is one in equity, it is the prerogative and duty of the appellate court to review and "weigh the evidence to find the facts"; and while the appellate court "will defer somewhat to the findings of the trial judge, yet if, after reviewing all the facts, it finds that it is not in accord with his finding, it is the duty of the appellate court to make a finding for itself and to enter the proper decree thereon."

[1] It is true that we are by no means bound by the findings of the chancellor below, but where much of the testimony is oral, and the ultimate result must depend, to a great extent, upon the credibility of the witnesses and the weight to be given to their testimony, no little deference must, of necessity, be given to the findings of the trial judge, who looked into the faces of the witnesses and heard them testify. Wilson v. Wilson, 256 Mo. 541, loc. cit. 570, 165 S. W. 999; Barnard v. Keathley, 230 Mo. 209, loc. cit. 236, 130 S. W. 306; Bryant v. Stahl, 217 S. W. 31.

[2] The next point in appellant's brief is devoted to the question as to the power of the appellant to hold stock in the Doe Run Company; appellant citing authorities in support of its contention that it has such power. But in the view which we take of the case it is unnecessary for us to pass upon this matter.

It is contended by appellant that the evidence shows that plaintiff had actual knowledge of the fact that these 23 shares of stock, originally held by members of the Ricker family, had been subjected to the terms and conditions of the "agreement and proxy," and hence took the stock cum onere. On

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October 16, 1913, plaintiff, in a letter to Crane, told the latter that he had seen "practically all of the stockholders" in St. Louis and had not found one who would not agree to the consolidation; that all said they would send their proxies in immediately. In this connection it may be noted that Holmes' testimony is to the effect that, though there were "a good many" Doe Run stockholders in St. Louis, he had only seen the members of his family and one other person whom he met on the street. In the letter mentioned, plaintiff sent to Crane a list of the stockholders who had signed, asking that it be revised to date so as to show later signatures obtained, and that it then be mailed to him in California, for which place he was leaving. This, it appears, Crane did on October 18, 1913, and early in November, Holmes wrote from California saying that he had written to "delinquent" stockholders. It thus appears that plaintiff then had information as to the stockholders who at that time had not signed this agreement and proxy.

When the agreement and proxy were signed for the Ricker shares cannot be definitely determined, except that they were signed some time prior to December 1, 1913. The evidence tends to show that the bank consented to the signing of such agreements by the Rickers prior to October 8, 1913, and it may be that such agreements and proxies were signed prior to October 18, 1913, the day of Crane's letter to plaintiff containing the list above mentioned, and that this list showed that fact; but this is not a necessary inference.

In December, 1913, plaintiff attended meetings of the stockholders and directors of the St. Joe Company. At one of these meetings Crane showed plaintiff a list of the Doe Run stockholders who had turned in their agreements and proxies. Plaintiff testified, however, that he "did'nt give any particular attention" to this list; that he saw "the total number of shares."

Plaintiff testified that in January, 1914, at a meeting of the directors of the St. Joe Company in New York, he asked for and was shown a list of the Doe Run stockholders who had not turned in their agreements, and that he commented upon the fact that the "Ricker Estate" shares were on that list. He stated that he did not recall any reference being made at the time to the 23 shares here in controversy.

Besson testified that on May 4, 1914, after the adjournment of a meeting of the St. Joe Company held at Bonne Terre, Mo., he had a conversation with plaintiff; that the witness had a list of the "outstanding" stockholders; that he and plaintiff "went over it name by name"; that plaintiff saw the name "Montgomery" on this list and made inquiry concerning him and was told by the witness that Montgomery was the nominee of the Bank of Commerce, that the bank had consented to the signing of the agreement and proxy, and that the witness had no doubt that they would "get in" this stock; and that plaintiff thereupon said that it was very important to "get these things in," saying further: "Get them in at once and I am only too glad to help you, and I will write to any of these people." Plaintiff, however, denies that any such conversation took place.

Plaintiff's broker, Fisher, testified that he had seen a great many of plaintiff's papers, and that plaintiff had shown him "lists of stock that had not been turned in or signed up," but he had "never seen a list of Doe Run stockholders that had signed this agreement and proxy."

It is earnestly argued that the evidence shows that plaintiff in fact knew that these 23 shares, termed the Ricker stock, were subject to the agreement in question. It is true that there is evidence in the record tending to support appellant's contention, but when all of the evidence is reckoned with, and due deference is given to the finding of the chancellor below upon the conflicting testimony in the case, we are constrained to hold that we ought not to disturb that finding.

There is abundant evidence at least in the latter part of 1913 and early in 1914 plaintiff took care to keep himself informed as to who had and who had not signed this agreement and proxy. What attention he gave to this matter during the remainder of the year 1914 and the early part of 1915 is not entirely clear. By April, 1915, he, as well as Crane, was endeavoring to purchase any "free stock" that might be obtainable. His conduct in connection with the purchase of these particular shares cannot be said to show actual knowledge that such shares were affected by this agreement. He says that in his conversation with Edwards he referred to the "Ricker Estate" stock for the reason that about a month prior thereto he had purchased some Ricker Estate stock and knew that it was free from the agreement. He was told, as he says, that this was "Ricker Estate" stock. He accordingly instructed his broker to buy it; but his broker, who had knowledge of the fact that some outstanding Doe Run stock was subject to this agreement while some was not, made special inquiry of the bank's representative as to whether or not this particular stock was covered by the agreement, and, according to his testimony, was assured that the stock was "free." In this connection it may be noted that the testimony tends to show that in selling the stock the bank's officials overlooked the fact that the bank had previously consented to the subjecting of this stock to the terms of the agreement and proxy. Acting upon the information thus obtained, plaintiff's broker purchased the stock, paying therefor approxi-

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mately the supposed market value of the stock if free from the agreement. Under these circumstances we think that the finding of the trial court that plaintiff did not have actual knowledge that the stock was affected by this agreement and proxy cannot well be disturbed.

[3] It is argued that in any event plaintiff had constructive notice that this stock was subject to the agreement and proxy. The term "constructive notice" is perhaps here inaccurately used by appellant. The facts upon which appellant relies in this connection, if establishing notice, should doubtless be regarded as showing a species of actual notice on the part of plaintiff, i. e., that character of actual notice which is sometimes termed "indirect, implied, or presumptive notice." Bispham on Equity (9th Ed.) p. 458, § 268. The learned author of the treatise to which we have just referred says:

"Actual notice consists either of direct information of a fact brought home to a party, or any knowledge of circumstances leading to a knowledge of such facts. It embraces all degrees and grades of evidence, from the most direct and positive proof to the slightest circumstances from which knowledge may be inferred. In the first case, the notice is direct or positive; in the second, it is indirect, implied, or presumptive."

On the other hand, constructive notice is that notice which is fastened upon one by an irrefutable presumption of law, as by the recording of an instrument under the recording acts.

[4] It is true, as learned counsel for appellant argues, that plaintiff was shown to have had sufficient information to put a reasonably prudent man upon inquiry touching the matter in controversy. Touching this matter it is said by Mr. Bispham:

"Anything which puts a person upon inquiry is said to amount to notice. He is bound, if circumstances point out a path of investigation, to follow it. If he makes no inquiries, the presumption is that he has improperly turned away from a knowledge of the true state of the case, and he is therefore presumed, as a conclusion of fact, to know what he might have informed himself of. But if he does inquire, and does not, after an honest effort, succeed in discovering the fact, the presumption of knowledge will be rebutted." Bispham on Equity, supra, p. 459.

In the instant case the evidence makes it appear that in purchasing this stock pointed inquiry was made as to whether or not the stock was subject to the agreement and proxy, and such inquiry not only failed to reveal that the stock was subject thereto, but was such as may be held to have been sufficient to satisfy a reasonably prudent man that it was "free" stock.

[5, 6] It is argued with much force that, irrespective of all other considerations, plaintiff should not be permitted to recover, for the reason that, having become a director in accordance with the settlement mentioned above, and having agreed to the consolidation plan and promised to assist in procuring signatures of stockholders to the agreement and proxy, in which position he became a trustee of the company and of the stockholders, he could not thereafter acquire any stock of the Doe Run Company adverse to the interpleader. This argument would, of course, be entirely sound if when plaintiff purchased the stock he stood in the position of a trustee for the interpleader touching the matter. But, as said above, plaintiff was dropped from the board of directors in February, 1915, and, though the evidence is not entirely clear as to this, it may be inferred that from about that time plaintiff was in some controversy with the management of the company, if, indeed, some such controversy had not arisen prior to February, 1915. It cannot be said, we think, that plaintiff was under a continuing duty to assist in carrying out this reorganization, i. e., a duty which continued indefinitely under any and all circumstances. This record fails to show what caused the new controversy or controversies between plaintiff and those who controlled the companies; but it is quite obvious that at the time of the purchase of this stock, and for some considerable time prior thereto, there was a total lack of harmony between plaintiff and those whose stock he controlled and those stockholders, apparently, headed by Mr. Crane, who controlled the affairs of the company.

The facts shown in evidence do not, we think, warrant us in holding that plaintiff could not under any circumstances or conditions purchase this stock on his own account, and that if he purchased it he must be regarded as having acquired it in trust for the benefit of this interpleader; since we cannot say that plaintiff's duty to assist in obtaining Doe Run stock for the interpleader continued down to the date of the acquisition of these 23 shares. For aught that appears, plaintiff may have been justified in regarding himself under no further obligation to assist in carrying out the terms of the agreement and proxy. The burden, we think, was upon the interpleader to show that at the time of the acquisition of this stock by plaintiff his position toward the interpleader was such as to estop him from acquiring any interest in the Doe Run stock adverse to it. And we think that the interpleader did not sustain this burden.

For the reasons indicated, we are of the opinion that the judgment below should be affirmed; and it is so ordered.

REYNOLDS, P. J., and BECKER, J., concur.

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THE MINERAL INDUSTRY

ITS

STATISTICS, TECHNOLOGY AND TRADE

DURING

1909

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EDITED BY

WALTER RENTON INGALLS

Editor of the Engineering and Mining Journal; Member American Institute of Mining Engineers; Member Institution of Mining and Metallurgy; Member Mining and Metallurgical Society of America; Member American Institute of Chemical Engineers; Member Society of Chemical Industry, Etc.

VOLUME XVIII

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ore of high grade. The Morning mine at Sullivan is down more than 2000 ft. The Hecla mine at Burke is 1200 ft. below the surface. It is reported that at 2200 ft. in depth in the Tiger-Poorman mine the ore-shoots had contracted in width, but that there was a portion of the ore-shoot which gave indications that would justify explorations to several hundred feet more in depth.

During 1909 the Chicago, Milwaukee & St. Paul road completed its line to the Pacific coast. In Idaho the line extends through the southern border of the Cœur d'Alene district and affords an outlet for numerous copper, gold and lead-silver prospects in that section.

Missouri.—This State, which has been the largest lead producer in the United States since 1905, made an increased output in 1909. In the southeastern district the production was unusually large, amounting to 126,784 tons, which gives Southeastern Missouri the world's record as a district. When the production of the Joplin district in Southwestern Missouri is added, the production of the State exceeds that of Spain and gives Missouri the world's record. Developments in the Joplin district, where the lead is recovered as a by-product in working the zinc ore, are treated especially under the caption of "Zinc" later in this volume. The production of galena ore in this district for a series of years is given in the accompanying table.

PRODUCTION OF LEAD ORE IN THE JOPLIN DISTRICT.
(Tons of 2000 lb.)

Year.	Tons.	Year.	Tons.	Year.	Tons.	Year.	Tons.	Year.	Tons.
1895.....	31,294	1898....	26,637	1901....	25,177	1904....	34,202	1907....	42,065
1896.....	27,721	1899....	23,858	1902....	31,625	1905....	31,679	1908....	38,533
1897.....	30,105	1900....	23,122	1903....	28,656	1906....	39,189	1909....	43,659

PRICE OF LEAD ORE AT JOPLIN
(Per ton of 2000 lb.)

Year.	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Highest.....	$56.50	$47.50	$50.00	$60.50	$62.00	$80.00	$87.00	$88.50	$66.00	$60.50
Average.....	48.32	45.99	46.10	54.12	54.80	62.12	77.78	68.90	55.75	54.58

In January the average quotation on lead ore in Joplin was $51.74 per ton. The price fell off slightly in February and March, but in April there was a sharp advance, the average quotation for the month being $54.71. Prices continued to rise throughout May and June, the average price during the latter month being $57.92, the high average of the year. In July the average quotation was $54.19, but this was raised to $57.61 in August. During the fall months there was a gradual recession. The year closing with an average for December of $54.60 per ton.

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(By H. A. Wheeler.)—The productive portion of the Southeast Missouri district is a belt about 75 miles long that includes the counties of Franklin, Jefferson, Washington, St. Francois and Madison. The heavy production of 1909 was derived from the deep, low-grade, disseminated deposits that occur in a basin in St. Francois county, 15 miles long by 7 miles wide, in which the principal towns are Bonne Terre, Flat River and Leadwood. Another basin of much less importance occurs in Madison county, about six by five miles in area, of which Fredericktown is the center. St. Francois county produced over 95 per cent. of the output, while Madison county produced about 4 per cent. and the remainder of the district, from the shallow diggings, produced less than 1 per cent.

That disseminated ore will be found underlying the present productive zones, there is scarcely any doubt. Prospecting for new orebodies with the diamond drill was carried on to only a moderate extent in 1909, and was entirely confined to the operating companies. Most of the drilling was done to develop the extensions of the working orebodies.

The St. Joseph company maintained its usual large production in 1909, but for the first time in its career the company took second place as its output was exceeded by that of the Federal Lead Company. The mills at Bonne Terre and Leadwood were both kept in full operation and the concentrates shipped to the smeltery at Herculaneum, 30 miles north of Bonne Terre, on the Mississippi river. The smeltery is equipped with five, large, mechanically fed shaft furnaces and a battery of five Savelsberg pots or roasting furnaces, besides the refinery and matte roasters. It is the intention to enlarge greatly the pot plant for roasting the concentrates, after which the 20 Freiberg or hand-roasting furnaces at Leadwood will be closed down. A new shaft, No. 15, was sunk on the southern part of the Crawley tract at Flat River and equipped with an electric hoist. As soon as the enlarged power plant of the Doe Run company at Flat River can furnish power, this shaft will begin shipping ore to the Bonne Terre mill and thus make the ninth producer out of a total of 15 shafts.

The Doe Run Lead Company, closely affiliated with the St. Joseph Lead Company, had a prosperous year and materially increased its output. The new 2000-ton concentrator (No. 3) at Flat River started in March, and was successfully operated on ore from the Mitchell shaft and part of the output of the Flat River shafts. It is a thoroughly modern plant that is divided into four units housed in a steel building with concrete floors. The old or No. 1 mill at Doe Run, of 1500 tons capacity, and the No. 2, or old remodeled Columbia mill, of 600 tons capacity, were also operated, and the three mills were run on the output of six shafts.

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The No. 6 shaft at Elvins, after lying idle for several years, was completed and equipped with an electric hoisting plant. A new shaft (No. 9) is being sunk on the property purchased from the Union Lead Company, two miles east of Flat river, where the diamond drill disclosed an attractive orebody.

The Desloge Lead Company completed its new or No. 6 shaft near Leadwood and made regular ore shipments to its 1000-ton mill over a spur of the Desloge railroad. The mill at Desloge also received ore from the No. 3 shaft near the mill and from the No. 4 shaft on Big river, about one mile west of the mill. The No. 2 shaft, at the southern end of the property, was not operated. In the smelting department, the blast furnace and hand roasters were idle, but three Flintshire or air furnaces were run steadily. As they could smelt only a small portion of the concentrates, the surplus was shipped to the Federal smeltery at Alton, Ill.

The National Lead Company maintained its usual output. Its 1500-ton mill was supplied from four shafts and the concentrates were shipped to its large smeltery at Collinsville, Ill.

The year 1909 found the Federal Lead Company with its construction and readjustment work at last finished. Although the youngest of the St. Francois county producers, it has grown so rapidly and been developed so energetically that it was by far the largest producer in the district in 1909. The company paid much attention to increasing production and reducing cost. Results were more than satisfactory, and the output showed an unprecedented growth. In fact, the production of the company is today not only the largest in the district, but is probably the largest in the United States, if not in the world.

The Madison county mines, at the southern end of the disseminated-lead belt, all suffered from the great disadvantage of having much smaller orebodies than occur in St. Francois county. They therefore have smaller plants, and none of them reached an output as large as 3000 tons of lead in 1909. None of the companies operate smelting plants and the concentrates were sold in the St. Louis market.

The oldest lead mine in the United States, the Mine la Motte, which has been producing since 1720, had a quiet, uneventful year in 1909. The construction work of the present owners ceased with the completion of a 500-ton mill in 1908, and 1909 was devoted to production and the development of new orebodies. Part of the company's large acreage was leased on a royalty basis to two operating companies, each of which operated its own mill.

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4 J.C. Branner

LEAD AND ZINC

IN THE

UNITED STATES

COMPRISING AN ECONOMIC HISTORY OF THE MINING AND SMELTING OF THE METALS AND THE CONDITIONS WHICH HAVE AFFECTED THE DEVELOPMENT OF THE INDUSTRIES

BY

WALTER RENTON INGALLS

Editor of the Engineering and Mining Journal, Editor of The Mineral Industry, Member American Institute of Mining Engineers, Member Institution of Mining and Metallurgy, Member Society of Chemical Industry, Member American Chemical Society, Member American Electrochemical Society, Etc.

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VI

MISSOURI

LEAD ore was discovered in Missouri in 1700, and serious attempts at mining were made as early as 1720. For a century thereafter the chief production of lead in the territory that now comprises the United States was derived from Missouri; more precisely from southeastern Missouri. The existence of lead in southwestern Missouri did not become well known until about 1850; at least no extensive prospecting was done before that date; and save for a brief period of activity in the vicinity of Granby from 1855 to 1860, the production of the district did not begin to increase largely until after 1870. Mines have also been worked in the central portion of Missouri, but they are not now, and never have been, important.

The history of lead mining in Missouri has already been ably related by Arthur Winslow in his Report on Lead and Zinc, for the Missouri Geological Survey, and in the following pages I shall make free use of the records collected by him.

The first discovery of lead in Missouri was by Penicaut, one of Le Sueur's party, which ascended the Mississippi in 1700. He refers to a mine reached by the Meramec River, about 50 leagues west of the Mississippi, and west of Ste. Genevieve, whence the Indians got lead. It is to be inferred from this vague description that the locality may have been somewhere in Crawford County. The existence of lead in Missouri evidently attracted attention in France, since Louis XIV in 1712 granted the Crozat patent with special privileges as to the discovery and operation of mines in the then territory of Louisiana. Little or nothing was actually done, however, until the transfer, in 1717, of this patent to the Company of the West, known better as the Mississippi Company, promoted by John Law, which immediately prepared for active operations.

About the first effort was made near the Meramec, by Sieur de Lochon, in 1719. He found ore, but his attempts to smelt it were failures. A few other attempts made at about the same time were also unsuccessful. These early adventurers expected to find in Missouri not only lead but also silver. It is known now that none of the lead ore of Missouri contains more than an insignificant proportion of silver.

In 1719, according to Schoolcraft,[1] Philip Francis Renault was

[1] A View of the Lead Mines of Missouri, p. 19 (New York, 1819).

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appointed director-general of the mines of the Company of the West, and proceeded to Louisiana with 200 artisans and miners, taking on at St. Domingo 500 slaves for working the mines. With Renault came, according to one account, a mineralogist by name of La Motte. Renault established himself near Kaskaskia in 1720, whence he sent out exploring parties, one of which discovered the deposits near Fredericktown, Madison County, now known as Mine la Motte, which name was acquired by their having been worked to a small extent under M. La Motte. According to another account, M. de la Motte Cadillac arrived in Louisiana in 1713 with commission as governor and conducted in 1715 an expedition for the search of silver mines into the country of the Illinois,[1] returning with fine specimens of lead ore; it is supposed that Mine la Motte was discovered on this expedition. La Motte resigned as governor in 1719, and returned to France. At all events, Mine la Motte was undoubtedly the first lead mine to be seriously exploited in Missouri. Old Mine and Mine Renault, near Potosi, were discovered between 1724 and 1726, and mining was begun at a number of places.

Renault was apparently the prime mover in early mining in Missouri. He had succeeded in building up a flourishing mining and smelting industry, the product being shipped naturally to France via New Orleans, when the failure of Law's company brought about a cession of its charter to the Crown in 1731. Renault, who had received as early as 1723 grants covering the Mine la Motte and other tracts, remained in Missouri until 1742, when he abandoned his work, returned to France and thus terminated the first period of mining in Missouri.

From 1742 to 1762 mining was feebly prosecuted by the French at Mine la Motte, Old Mines, and Mine á Gerbore, all of which had been discovered in Renault's time. In 1763 the Mine á Burton was discovered at Potosi by Francis Burton, and work was begun there at once. Other discoveries were made soon afterward in the same vicinity.

During the next 30 years lead mining was prosecuted on a small scale at various places in Missouri, chiefly those which have been previously mentioned. Shortly after 1795 some new discoveries were made. The Mines á Lanye, about 16 miles south-southeast of Potosi, were uncovered in 1795; the Mine á Maneto, or American mines, on Big River, about 12 miles southeast of Potosi, in 1799; and Mine á La Platte, near the southeastern corner of Washington County, also in 1799.

Up to this time the lead ore mined in Missouri was entirely galena, occurring as deposits in clay, the character of which has been previously described. Similar deposits have been worked in Washington County, in the vicinities of Palmer, Potosi, and elsewhere, within quite recent time, and occasionally are found and dug even at the present. The early open-

[1] William H. Pulsifer, Notes for a History of Lead, pp. 89–91.

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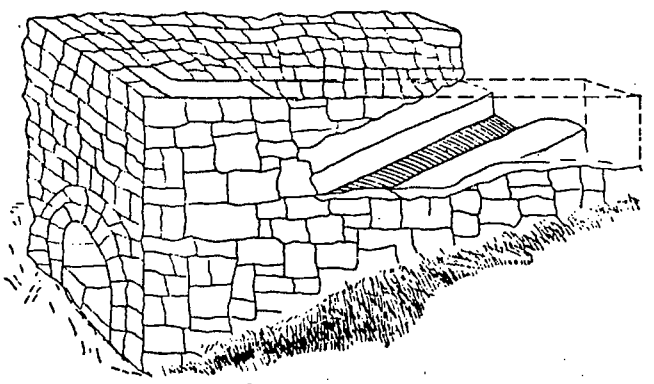
ings were very shallow, being seldom over 10 ft. in depth. The ore, cleaned of clay by hand, was smelted either on log heaps or in a rude construction known as the log furnace. According to Schoolcraft[1] this furnace was built against the side of a hill sloping about 45°. Three large oak logs were rolled into the furnace transversely, resting on the ledges at the sides. Small split logs were set up vertically around the inside of the furnace, after which about 5000 lb. of ore in pieces averaging 15 lb. weight were piled up in the furnace, covered with logs, and the fire started. Metallurgically the method of smelting, which was lead smelting in almost the most primitive manner, is to be classed as a roast-



The Log Furnace.

reaction process. The fire was kept low for about 12 hours, during which the roasting took place. A stronger heat was then maintained for 12 hours more, to effect the reaction, during which period lead trickled out into a basin in front of the furnace. Sometimes the reaction period would have to be extended to 24 hours, this depending largely upon the skill of the smelter. As may be imagined, the extraction of lead by this crude process was very imperfect. If we may judge from the ore obtained nowadays from similar deposits, the grade of the mineral early won was likely upward of 80% lead, or 1600 lb. per ton. The yield of lead from a ton of ore smelted in the log furnace was only 700 to 800 lb., or less than 50% of the lead in the ore. By the methods of smelting now in use an extraction of 98% of the lead is attainable.

A noteworthy event in the history of lead mining in Missouri was the arrival, in 1799, of Moses Austin, who had formerly operated the mines at Wytheville, Va., and knew more about mining and smelting than did

[1] *Op. cit.*, p. 93.

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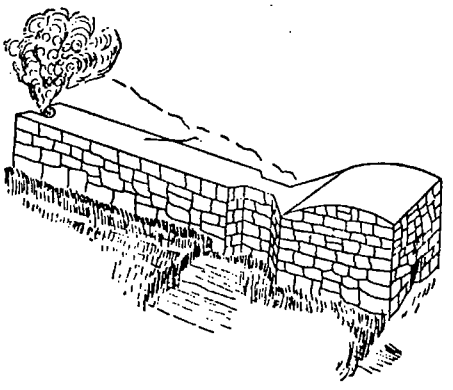
the Missourians.[1] He obtained a grant of one league square at Potosi, in consideration of which he was to erect a furnace and other works; this he did in the following year. Austin introduced what was called the "ash" furnace, which was designed to supplement the log furnace. It was impossible to attain a good reaction from ore as coarse as that which was charged into the log furnace, and the loss of lead was largely due to its remaining unreduced in the cinders, or ashes, left in the furnace. Austin crushed these ashes moderately fine and charged them into the ash furnace, which was a rude reverberatory with a sloping hearth, wherein they were heated about two hours, extending the reaction



The Ash Furnace.

left incomplete in the log furnace. In this way an additional extraction of about 15% was effected. The furnace was built of limestone and lasted only 15 to 20 days of continuous work, but in view of its low first cost this was not a serious matter. At the time of Austin's advent there were about 20 log furnaces in operation near Potosi. They could not successfully compete with a smelter who could extract 15% more metal from the same ore, and in 1802 only one of the old furnaces was running. Austin also erected a shot tower in 1799, and a plant for the manufacture

[1] The following biographical sketch of Moses Austin has been kindly communicated to me by Mrs. Edward W. Parker, of Washington, D. C., one of his descendants:

Stephen Austin was born in November, 1747, and his brother Moses in October, 1761, both at Durham, Conn.; their father, Elias, having moved there from his birthplace, Suffield, of which place his grandfather, Anthony, was one of the original settlers. Anthony Austin came to America with his father, Richard, when a boy of thirteen, landing at Charlestown, Mass., in May, 1638.

Stephen Austin became an importer of English cloths in Philadelphia, and was

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of sheet lead, from which the arsenals of New Orleans and Havana were supplied.[1] To Austin, moreover, is due the credit of having inaugurated mining in the rock of the district, he having sunk a shaft to the depth of 80 ft. Previous to that all the mining had been done by open pits.

We are fortunate in having a report by Moses Austin himself, made in 1804, which is an excellent exposition of the condition of lead mining in Missouri during the five years immediately preceding the purchase from France. This report was entitled "A Summary Description of the Lead Mines in Upper Louisiana," and was prepared at the request of Capt. Amos Stoddard, first civil commandant of Upper Louisiana. Moses Austin evidently visited Missouri for the first time in 1797; at all events he states that it was in that year that he first knew the Mine á Burton. In 1798 he obtained a concession of "one league in superfice, comprehending about one-third part of the mine (on condition he should erect a smelting furnace, and establish a lead manufacture)." In June, 1799, Austin removed his family to the mine.

The mines known in Missouri in 1804, according to Austin, were Mine á Burton, Mine á Robuna, Old Mines, Mine Ranault, Mine á Maneto, Mine á la Plate, Mine á Joe, Mine á Lanye, Mine á la Mott, and Mine á Gerbore. Not all of these mines were being worked. The most productive was the Mine á Burton, after which the Mine á la Mott and Old Mines ranked in the order of mention. The produce of all the other mines together was insignificant.

Austin's description of the occurrence of the mineral was substantially

joined there in 1783 by Moses, who the next year established a branch house in Richmond, Va., under the firm name of Moses Austin & Co.

In Richmond he heard of the abandoned lead mines of Chiswell in Wythe County, and induced his brother, Stephen, to purchase them with him. Stephen Austin remained in Philadelphia and Moses worked the mines. He was there in the summer of 1789, perhaps earlier.

The failure of the Philadelphia house in 1796 or 1797 broke up Moses Austin's mining operations in Virginia and the properties there were sold. He had heard by chance, in 1796, of rich lead deposits in the French territory below St. Louis, and in 1797 set out to learn the truth of the reports. Being satisfied with the showing, he secured a grant of three miles square, returned to Virginia, and removed from there permanently with his family in 1799.

For twenty-one years he labored and built up a large fortune, which was lost in the failure of the Bank of St. Louis, of which he was a large stockholder. Again he saw his works and home sold, and, then a man of fifty-eight, thought of a new way to build up his fallen fortunes. He had heard of Texas from Zebulon Pike, and in 1819 struck out alone to cross another wilderness to the outpost of Spanish government in the southwest, San Antonio de Bexar. He returned after months, with a large land grant and permission to settle three hundred American families in Texas, but died June, 1820, as the result of the journey, before the setting out of his colonists. His plans were carried out by his son, Stephen F. Austin.

[1] Winslow, *op. cit.*, p. 271.

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as we know it to be from recent observations of similar deposits mined at the present time. Also the method of mining the superficial deposits then was identical with that of the present time. Austin described two qualities of mineral, viz., gravel and fossil mineral. The gravel mineral was found immediately under the soil in pieces of 1 lb. to 50 lb. weight. After passing through the gravel, which is commonly from 3 to 4 ft., is found a sand rock, continuing 5 or 6 ft. more, and containing mineral nearly of the same quality as the gravel. Under the sand rock mineral of the first quality was found in a bed of red clay in pieces of 10 to 500 lb. weight. This last mineral produced 60% of its weight in lead when smelted in a common furnace, and 15% more when smelted again in a slag furnace. The gravel mineral would not produce more than 60% lead when cleanly smelted.

When Austin first knew the Mine á Burton, in 1797, the French smelted their mineral in stone furnaces, somewhat similar to lime-kilns. "At the bottom they put a floor of the largest logs to be found, setting smaller ones round the sides of the furnace. In a furnace thus arranged, is put from three to five thousand pounds' weight of mineral; and a fire, being lighted under the bottom of the furnace, is kept up until the mineral is entirely smelted, burnt or lost in the ashes. In this way, each miner smelted his own mineral, extracting about 350 lb. of lead from each 1000 lb. weight of mineral." In 1798 there were 20 French furnaces at Mine á Burton, but in 1802 only one was in use, the miners having found it more advantageous to sell their ore to Austin than to smelt it themselves.

The time for working the mines was from August to December. "After harvest the inhabitants of St. Genevieve and N. Burbon resort to the mines; the rich send their negroes, and the poor class depend on the mines to furnish them with lead to purchase all imported articles. From the middle of August to the fifteenth or twentieth of December there are from 40 to 50 men employed in digging mineral: the remainder of the year but little mineral is drawn from the mines, and but few hands employed. From 1798 to 1803 the average quantity of mineral may be stated at 550,000 to 600,000 lb., French weight, each year, procured in four months by not more than 50 men. The same number of hands employed the year round would produce at least fifteen to sixteen hundred thousand pounds, making proper allowance for spring rains."

Austin gives some additional information as to the methods of smelting. At the Mine á Maneto comparatively low grade ore was mined, the mineral occurring in thin flakes in a layer of soft gray limestone. The ore was pounded and washed, 1000 lb. yielding 300 to 400 lb. of mineral. This is interesting as an early example of ore-dressing practice. The process yielded but little profit to the operators, but Austin was of the opinion that experienced workmen could obtain a handsome

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profit. At the Mine á la Mott[1] the mineral was found in "regular veins, from two to four feet solid," found within four or five feet of the surface, "with a declination of 45°." Five of these veins had been opened and wrought. They could not be mined deeper than 25 ft., and to that depth only in the dry season. "Notwithstanding the French inhabitants of this country have followed the mining business upward of 80 years," said Austin, "yet they have not advanced in the art of smelting a step beyond their ancestors. The methods they pursue bespeak their surprising ignorance. As the Mine á la Mott differs from those already described, so does their mode of smelting. The first process is by depositing the mineral in a pile of logs, after the manner sea shells are burnt to lime; the piles being set on fire and consumed, the quantity of lead produced is 5%. It is then put into a furnace of stone, such as before described; from this process, if well attended, is produced 15% more. After this second burning, they consider the mineral in a proper state for smelting. Therefore, collecting it from the ashes, they again put it into the furnace, arranged with logs at bottom and sides, and make an end of smelting. From the last process they commonly obtain about 15%, making 35% the greatest quantity obtained.

"At the Mine á la Mott is also found, in beds, what the miners call gravel mineral. . . . This mineral, after an imperfect washing, is put into a furnace, where it is suffered to melt into a slag, no attempt being made to create a fluxility of the metal from the dross. It is then put into a furnace, not unlike a miller's hopper, with a grate at bottom; underneath a fire is lighted, and continued until the slags are all melted, and a partial fluxion effected. This mode of smelting produces about 250 lb. of lead to 1000 lb. of mineral. Notwithstanding the immense loss in smelting, the richness of the mines and the small expense in obtaining the mineral leaves an astonishing profit to the proprietors."

Austin estimated the average annual production of all the mines for the years 1801–1803 as follows: Mine á Burton, 550,000 lb. mineral, estimated to produce 366,667 lb. of lead, worth (at $5 per cwt.) $18,333; Old Mines, 200,000 lb. of mineral = 133,333 lb. of lead, worth $6,666.67; Mine á la Mott, 200,000 lb. lead, worth $10,000; all other mines, 30,000 lb. lead, worth $1500; total, $36,500. To this was added $3600 as the increased value of 120,000 lb. of lead manufactured into shot and sheet at Mine á Burton. The number of men engaged in the industry was about 150, of whom 120 worked about four months and the remainder the year round. Each man averaged $43 per month.

Austin was extremely optimistic as to the future of lead mining in this territory. He considered the time to be not far distant when it would

[1] Austin uniformly refers to the Mine la Motte in this way. Also he spells the name "Renault," "Ranault."

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furnish lead sufficient "not only for the consumption of the United States, but all Europe, if moderate encouragement is given by government, and protection against the Osage Indians, who yearly plunder the inhabitants." However, as we know, the statistics for the next 20 years fell far short of bearing out this forecast.

Some of Austin's observations as to general conditions are of much historical value. The Spanish government had allowed the inhabitants to work on public lands free from any kind of tax. Austin recommended the payment of a small tax to the Government. He noted that surveys of all the lands worthy of notice had lately been made (Austin's report was dated Feb. 13, 1804), by order of the governor of St. Louis, with an intention to include every spot of land supposed to contain mineral, these surveys amounting to thirty or forty thousand acres. The Mine la Motte at this time was claimed as private property, as were also others of the early discoveries.

Americans began to move into Missouri about the end of the eighteenth century; after the purchase of the Louisiana territory, in 1803, the influx of the Americans became very large. This, together with the improvements in mining and smelting, led to an important development in the lead-mining industry, with the result that the output of pig lead during the first two decades of the nineteenth century is estimated to have averaged 1100 tons per annum. Of this, about 250 tons per annum were derived from the Mine á Burton, and approximately 250 tons from the Mine la Motte. Mills estimates that the latter produced 4000 tons from 1804 to 1819.[1] Just previous to 1804, however, the output was only about 100 tons per annum, a great falling off from what was done earlier, attributable to the fact that the mine was then claimed as private property and the residents were not allowed to mine ores thereon, whereas formerly it had been considered public property. At the Mine á Burton, which attained its maximum production between 1804 and 1808, about 200 men were employed. Among the new discoveries during this period were the Mine á Joe, later called the Bogy mine, near Desloge, St. François County, in 1801; the Mine á Martin, 4.5 miles east of Potosi, Washington County, in 1803; New Diggings, near Potosi, in 1806; the Hazel Run mines, about five miles northeast of Bonne Terre, St. François County, in 1806; the Shibboleth mines, near Cadet, Washington County, in 1811; the Fourche á Courtois mines, at Palmer, Washington County, in 1814; and others of less importance. The mines at Palmer and Cadet have been worked more or less continuously since their discovery, and are still productive. The Shibboleth mine is credited with a production of 2500 tons of ore, equivalent to 1563 tons of metal in its first year. Toward the end of the second decade of the nineteenth century mining in south-

[1] Geological Report on the Mine la Motte Estate, p. 46.

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eastern Missouri had attained considerable importance. In 1819 Schoolcraft cited 45 mines worthy of note which were then working or had been worked; there were 27 in operation, giving employment to 1130 men for more or less portions of their time, that number including miners, smelters, smiths, teamsters, etc.

Technically there was little or no improvement. The work was of an intermittent character, being prosecuted chiefly during three or four months of the year when there was nothing to do on the farms. The method of mining continued to be primitive. Most of the ore was won from the superficial deposits in the clay. Few shafts were sunk into the rock, and none deeper than the 80 ft. which Austin sunk. The only tools used in 1811 appear to have been a pick, a wooden shovel, and a sledge-hammer to break the rock, but in 1819 Schoolcraft refers to the drill being used for blasting. In smelting, the log and ash furnaces continued to be used, without improvement, a practice which Schoolcraft condemned strongly and recommended the substitution of blast furnaces. The pig lead was carted to Ste. Genevieve during the early years, but after the establishment of Herculaneum about half of the product was taken there, where in 1818 three shot towers were erected on the river bluffs, the shot being made by letting it fall down the banks. From Ste. Genevieve and Herculaneum pig lead and shot were shipped to New Orleans, Philadelphia, and New York, the output being estimated by Schoolcraft in 1819 at about 1500 tons per annum.

The value of lead at Philadelphia in 1819 was 6 c. per lb.; at New Orleans, 5.5 c. At the mines in Missouri it was 4 c., which price appears to have been the standard basis of settlement during this period. The miner received about 2 c., and was obliged to pay a royalty of $3 to $4 per 1000 lb. of mineral.

The system of mining rights which came into vogue during the first decade of the American possession of the territory was of great importance in determining the subsequent mining practice, and its effects may be observed in Missouri at the present time. Under the Spanish dominion, four acres of land were granted to all discoverers of mineral. Elsewhere on public lands all were allowed to work, free from any tax. After the American purchase, little attention was paid at first to mining rights and naturally difficulties arose, to remedy which, and also to derive an income from the newly acquired territory, Congress in 1807 passed a law reserving all lead lands and authorizing the Governor of the territory to grant three-year leases to discoverers, who were required to pay a certain royalty. The reservations were made from reports of the Land Office surveyors, and because of defective surveys the results were necessarily imperfect. The Recorder of Land Titles at St. Louis made the leases. The royalty was generally one tenth of the ore raised. The

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periods of the leases varied from one year to two years and the royalties amounted to $3 or $4 per 1000 lb. of ore.[1] This system was ineffective in practice, few miners taking the trouble to procure leases, there being no special agent to oversee them. Rules were gradually established by custom, which were more regarded. According to these, a discoverer was allowed to claim ground within radius of 25 ft. of his discovery, while others were allowed 12 ft. square of the adjacent ground. These tracts could be held until work was abandoned. The practice of leasing small patches of land and disposing of lead ore by the 1000 lb. still prevails both in southeastern and southwestern Missouri.[2]

The same looseness regarding the leasing and supervising the lead lands continued up to 1824, in which year Lieut. Martin Thomas was appointed U. S. Superintendent of Mines for Missouri and the West generally, with authority to report land for reservation, enforce the conditions of leases, and protect the lessees. He appears to have entered energetically upon the discharge of his duties. In 1825 he reported that 34 new leases had been taken out at the regulation 10% royalty. At this time he estimated that the land under reservation, principally about Potosi, amounted to 150,000 acres, of which only 9000 was leased.

Lieutenant Thomas gave some data as to the mining and smelting results of that time (1825). He said[3] that the same old type of log furnace was used in smelting, and characterized the practice as crude and wasteful, consuming large quantities of fuel and yielding on an average only about 1240 lb. of lead to the ton of ore. The smelters paid the miners for 800 lb. of lead to the ton of ore. The cost of smelting was about $4 per ton of ore. With lead worth 4 c. per lb., a ton of ore would therefore bring $32 to the miner, and would afford a profit of about $12 to the smelter. Miners made at times as much as $15 per day, but only about $1 per day on the average. Schoolcraft, on the other hand, estimated $2.25 as a fair average of what a miner could earn throughout the year. The total number of men employed in 1825 was estimated by Thomas as 2000, half of their time being occupied in farming and half in mining and the accessory work. The number of mines had more than doubled since 1816, and was increasing rapidly. However, the Valle mines, about seven miles northeast of Bonne Terre, in St. François County, located in 1824, were the only important discovery during this period. The lead continued to be hauled to Herculaneum and Ste. Genevieve; after 1825 also to Selma. The hauls were long and the roads in bad condition. Lieutenant Thomas urged the construction of a Government road from Potosi to the Mississippi River.

[1] American State Papers, IV, 526,555.

[2] The leasing system introduced by the Federal Government is discussed more fully in the subsequent chapter on Wisconsin.

[3] American State Papers, IV, 557.

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About 1825 there began to be a considerable increase in the lead production of Missouri, which appears to have been stimulated by the increase in the value of lead at about that time. The method of working the mines remained essentially the same. The lack of progress in the methods was attributed by Lieutenant Thomas to three principal causes: (1) the absence of capital and skilled labor; (2) the scarcity of labor; and (3) the ease with which ore could be obtained near the surface. In the light of modern knowledge it appears that the real cause was the character of the ore deposits. The small nests of ore in the superficial clay, which are even now found in the vicinities of Cadet, Potosi, and Palmer, are still extracted in substantially the same crude manner as in the early part of the nineteenth century, and it is the only manner in which they could be extracted profitably. Their location is too uncertain to induce systematic prospecting for them. When located, they are too small to make it worth while to install any considerable plant for working them, and they are so easily worked that no considerable plant is required. These conclusions are also substantially true as to the deposits in place in the limestone country-rock, at least down to the water-level. About the only practicable method of working them is through lessees operating in a primitive way, who will realize a profit where a company operating on its own account would fail. Below the water-level a different system must be pursued, means having to be provided to pump out the water and hoist from greater depth than is practicable by windlass or whim, but none of these mines has yet been worked below the water-level, and it remains to be proved whether a profitable modification of the present system will be developed.

In order to possess a thorough understanding of the economic history of lead mining in southeastern Missouri, explaining the wide-spread occurrence of the ores, the ease with which they were located and mined, and the long record of production from certain of the early discoveries, it is necessary to consider the nature of the ore deposits, and the method of exploitation. Inasmuch as the same kind of deposits are newly discovered and worked in a primitive manner at the present time we are able to picture accurately the early conditions. In this connection reference should be made to the description of the ore deposits and the methods of mining in Chapter II.

The smelting methods of 1801–1851 were obviously primitive, yet they were not so inefficient as would appear at first sight. The art of metallurgy is to make the most money out of the ore presented for reduction; not to achieve scientific perfection. The smelting cost of $4 per ton of ore reported by Lieutenant Thomas in 1825 is about as low as is accomplished with similar ores in the best practice in Missouri at the present time; it is lower if amortization and interest on plant be reckoned.

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The loss of lead, amounting to approximately 25% of the content of the ore was high, but it was not much higher than would have been suffered in any other system of smelting available at that time; in fact it is not much higher than is suffered with the air furnaces used at Palmer and elsewhere at the present time. There was not then any market for the gray slag, which would have increased the yield of lead. Schoolcraft in 1819 recommended the use of blast furnaces, by which it is indefinite whether he meant Scotch hearth furnaces or shaft furnaces; if the former, their utility at that time would have been doubtful, and if the latter, it would have been still more doubtful.

Lieutenant Thomas defended the system of reserving and leasing lands as generous to the miners, and protecting the resources of the country. Nevertheless, the popular opinion continued to be different and the number of trespassers on the Government land increased. This led Thomas to recommend in September, 1826, that leases for larger tracts than 320 acres be given, which appears to have been the limit up to that time.[1] Up to 1827 only about 135 tons of lead had been collected as royalty during the previous three years. In 1827 attention was diverted from the lead mines of Missouri to those of Wisconsin, and the output of the former ceased to increase. This, together with the obvious failure of the system prescribed by Congress in the Act of 1807 induced Thomas to recommend the sale of the Missouri lands, arguing that they could be sold without danger of being monopolized while attention was concentrated on the rich deposits of the Upper Mississippi Valley. The proposed sale was favorably recommended by a Congressional committee in January, 1828, and it was urged in a memorial of the State legislature in January, 1829, but Congress was slow to act and it was not until 1847 that it was finally decided to offer the lands for sale. The law had then long been a dead-letter, since after 1834, according to Whitney,[2] in consequence of the immense number of illegal entries, the miners and smelters, both in Missouri and Wisconsin, refused to pay any more royalty and the Government was unable to collect. However, this statement was not quite correct, inasmuch as the Government did succeed in collecting some royalty, although it was done at large expense.

With about 1830 the great importance of the Missouri mines, which previously had been substantially the sole source of American lead, disappeared in the rise of the Wisconsin mines, and not until about 1871, when the Joplin district began to be really important and the disseminated deposits of the Southeast began to be exploited, did Missouri regain its early position of prominence in the lead industry.

This is not to say that the production of lead in Missouri fell off, save

[1] American State Papers, IV, 801.
[2] Metallic Wealth of the United States, p. 405.

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in comparative importance. On the contrary, it increased rather steadily from 1831 to 1850. Numerous new discoveries were made at various points in the Southeast. Especially noteworthy is the Virginia mine, near St. Clair, Franklin County, which was a new class of deposit, different from what had previously been worked in Missouri. The deposits in the rock at Palmer, Potosi, and elsewhere were networks of small ore channels, lying approximately flat and near the surface. Consequently a large area of ground could be worked out through a series of shallow shafts. The Virginia mine was opened on a fissure vein cutting nearly vertically through the country-rock, and in order to open a large area of the vein it was necessary to sink deep shafts. Such veins are the characteristic of Franklin County. They have not been in the aggregate large producers of lead, although the Virginia mine, which was the most important of them, made a very respectable output, having yielded during its checkered career about 13,000 tons of lead ore, of which about 5000 tons were turned out previous to 1846, and 7500 tons from 1854 to 1873. The above explanation of the difference in character of the Virginia vein will make it clear why a shaft was early sunk on it to a depth of 264 ft. and equipped with a steam hoist, while elsewhere in Missouri there was nothing but shallow pits.

The old log and ash furnaces continued in sole use up to 1836, in which year a Scotch hearth was erected by Major Manning at Webster, Washington County.[1] Other furnaces of the same type were soon afterward erected elsewhere, but they do not seem to have immediately displaced the log and ash furnaces, which not only continued to be operated, but also new ones were built. At Higginbotham's smeltery, near the present Fertile post-office, they were retained for years subsequent to 1850, and they were in use at Mine la Motte in 1850.[2] This would indicate that the Scotch hearth did not give an overwhelming advantage over the older type of furnace. An interesting fact is the remark by J. T. Hodge, writing in 1842, that there were then in use at Mine la Motte nine Scotch hearths, two cupolas, and one reverberatory furnace.[3]

Previous to 1838 all of the lead ore worked in Missouri was galena. The presence of cerussite, lead carbonate, had early been noted, but its value as an ore does not appear to have been recognized until 1838, when new furnaces were erected to smelt it at Mine la Motte, leading to an increase of lead production.[4] However, this ore, commonly called "dry

[1] G. C. Swallow, First and Second Annual Reports of Geological Survey of Missouri, part ii, p. 59. This appears to be the first definite mention of the use of this type of furnace in Missouri, although Schoolcraft refers in 1819 to what was perhaps a Scotch hearth (A View of the Lead Mines of Missouri, p. 22).

[2] Winslow, *op. cit.*, I, 283.

[3] On the Wisconsin and Missouri Lead Region, *American Journal of Science*, First Series, XLVII, 64.

[4] James E. Mills, Geological Report on the Mine la Motte Estate, p. 47.

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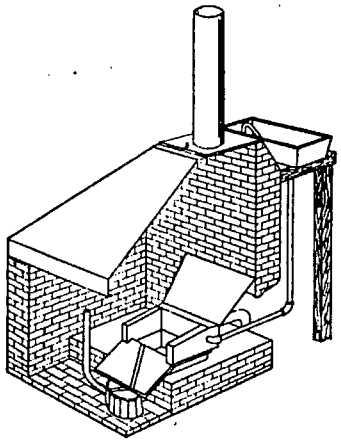
bone" by the miners, was not abundant and therefore was never a very important source of lead in Missouri.

From 1831 to 1840 the production of lead in Missouri increased considerably, averaging about 3600 tons per annum, against about 1900 in the previous decade. In the ten years, 1841–1850, there was no material increase in the output, which was apparently checked by the low price of lead, the latter declining to about 3 c. per lb. during the early forties, and continuing low, on the whole, until nearly 1850. During the later years of this period shipments were made via Rush Tower, Plattim Rock, Salt Point, and St. Mary's, besides Ste. Genevieve, Herculaneum, and Selma. Both Missouri and Wisconsin were fortunate in having a water route to the Atlantic Seaboard from points comparatively near the mines. It was this that enabled so large an output of lead to be made at low prices before the advent of railway transportation.



Old form of American Scotch-hearth.

Reed & Hoffman erected a plant for the manufacture of white lead at St. Louis in 1837. Soon afterward it passed into the hands of Charles & Blow, and then into the hands of the Collier White Lead and Oil Co., which is now a part of the National Lead Co. Soon after 1840, William Glasgow, Jr., also erected works at St. Louis for the manufacture of white lead by the Dutch process, but operation continued only a few years, the works being destroyed by fire. Small works were also erected at St. Louis by Bacon & Hyde. The demand for white lead was small, however, and the annual product previous to 1850 did not exceed 500 tons.

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The existence of lead ore in southwestern Missouri was known to the Osage Indians, and to the hunters from an early date, and it is certain that they used the ore as a source of metal for their bullets, inasmuch as remains of their crude furnaces have been found. About 1848 mining of lead ore was begun by William Tingle, two miles east of Joplin. In 1849 lead was discovered within the limits of Joplin by Daniel Campbell. This was the inception of mining in the Joplin district, the development of which was the predominant feature in Missouri mining during the next decade, although it was not for more than twenty years that the beginning of its great importance as a lead-producing district was to dawn. In 1851 mining was begun on Center Creek, near what was later called Minersville, and is now called Oronogo. In 1854 mines in operation on Turkey Creek were described by Swallow.[1] Discoveries were also made near Granby and Neosho, in Newton County, where the early developments were more important than in Jasper County. Up to 1854, however, the total production of both counties, according to Swallow, was only 862 tons of lead. This was produced chiefly from galena, though some carbonate ore was smelted. The zinc ore associated with the lead ore was thrown aside. By 1857 mining was actively in progress at Granby, and in 1858 Swallow estimated that probably 4000 tons of lead had been produced up to that date. From 1851 to 1860 it is reckoned that about 300 shafts were put down in and about Granby. The extensive developments of the mines accompanied by the provision of the necessary new smelting capacity led to a great increase in the production, the output of Granby rising to 4000 tons of lead per annum shortly after 1855 and causing the Southwest of Missouri to surpass the Southeast.

The decadence of the Southeast[2] was evidently due to exhaustion of the small, shallow deposits of Washington and St. François Counties, and the failure of the veins of Franklin County to become important producers. Prof. J. D. Whitney, writing in 1854, said:[3] "All these mines have now fallen off very much and most of them are completely exhausted. . . . The lead deposits of Missouri, on the whole, strikingly resemble those of the Upper Mississippi. . . . As they have been considerably longer worked in the former State, they are now nearer to exhaustion, and there is little reason to believe they will ever regain the importance which they once had."

The failure of this prediction, as shown by the statistics, has been remarked. Yet there was really no such failure. The conclusions of this very competent observer were undoubtedly warranted by the facts at that time and have been borne out substantially by the class of

[1] First and Second Annual Reports of the Missouri Geological Survey, part i, p. 160.
[2] G. C. Broadhead, Report on the Geological Survey of Missouri, p. 488.
[3] Metallic Wealth of the United States, pp. 418–419.

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deposits to which he referred, namely, the shallow networks of Palmer, Potosi, etc. They have never since made an important production. The great increase in the lead production of southeastern Missouri since 1871 has been due to the disseminated deposits, which were unknown at the time of Whitney's visit; and between which and the shallow networks geologists have not yet been able to establish generally a connection.

The decline in the Southeastern production at this time was due partly to litigation which checked work at Mine la Motte. On the other hand, the Valle mine increased its output to over 500 tons of lead in 1858.

The first smelting furnaces erected in southwestern Missouri were the old log furnaces. They were soon superseded, however, by the Scotch hearths, the first of which was built in 1851, and started in 1852, by George W. and William S. Mosely, near the mouth of Cedar Creek, about six miles northwest of Neosho, in Newton County. The ore supply was obtained from mines near the works. The latter comprised two hearths of capacity for 3000 lb. of ore in 12 hours. The blast was produced by water power.

In order to encourage smelting at this early date, the Indian Agency gave the proprietors of this furnace a subsidy to build flatboats for transporting their product down Grand River from Gilstrap's Ferry to the Arkansas River, thence to the Mississippi River, and thence by steamboat to New Orleans, which was their market till 1854 when the firm failed. The old Moseley mines which were the ore supply for this early venture are still producing.[1]

The second smeltery to be erected in the Joplin district was that of Hartlerhodes in 1855. His furnace was situated on Hickory Creek, five miles southeast of Neosho, and consisted of two Scotch hearths. It is on record as having lost over half the metallic content of the ores smelted. In 1868, years after the abandonment of this smelter, its slag was hauled by John Kingston, now manager of the Granby Mining and Smelting Co's. plant at Granby, to Granby, Mo., where it was resmelted and much of the remaining metal extracted.[2]

In 1856 Kennett & Blow put up three Scotch hearths at Granby. This partnership continued to smelt lead until 1865 when the business passed into the hands of Henry T. Blow, who organized the Granby Mining and Smelting Co., which has been one of the most successful companies operating in the lead and zinc fields of the Southwest. During the year of organization the present smelting plant was built, with eight Scotch hearths capable of smelting 3000 lb. of ore in seven hours. These were succeeded by five water-back Scotch hearths of capacity for 7000 lb. of ore in seven hours, and these by five water-back

[1] D. Brittain, *Engineering and Mining Journal*, Nov. 9, 1907.
[2] D. Brittain, *loc. cit.*

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jumbo Scotch hearths of capacity for 14,000 lb. of ore in seven hours, the last being the present equipment of the plant.

Also in 1856 William Tingle and his partner Fitzgerald operated a hearth (some say a log furnace) at the mouth of Leadville Hollow, two and a half miles northwest of Joplin. The blast was produced by two large bellows operated by water-power. This smelter continued in operation till 1861.

In 1858 Swallow gave a list of 34 furnaces, distributed as follows:[1] Washington County, 14; Franklin, 4; Jefferson, 3; Crawford, 1; Christian, 1; Newton, 9; Jasper, 2. Two of these are stated to have been log furnaces, 16 Scotch hearths, and 11 unclassified. Subsequent to 1851, at least, the Scotch hearth may be considered to have become the standard smelting furnace in Missouri.

About 1859 Tom Livingstone and one Parkinson operated two Scotch hearths at Oronogo. After the Civil War the bellows which supplied the blast was actuated by a treadwheel turned by a horse. While this smelter was in operation before the war Livingstone operated another plant at Livingstone's ford, on Center Creek. The place was then known as French Point on account of a colony of French smelters which Livingstone brought from southeastern Missouri. Lead ore for this furnace was obtained from Minersville and Duff's diggings, or Leadville, between Joplin and Minersville. The blast was furnished by water-power. This plant was destroyed during the war by Federal troops.

During the activity of Kennett & Blow at Granby and Tingle on Turkey Creek, E. St. George Noble and his brother John in 1859 erected a smelter four miles south of Granby on the site of the old Hartlerhodes smelter. After two years of operation this smelter was burned by the Federal troops in 1861. It consisted of four Scotch hearths and a blast furnace for smelting the flue dust and gray slag. There are some interesting and valuable records of the smelting operations at this works, which have been given in the previous chapter on "Metallurgy." It appears from these that the value of ore at that time was $32 per 2000 lb. The wages of smelters were $0.75 to $1 per day. Charcoal cost 7½ c. per bushel, and ordinary cordwood $1.50 per cord. The cost of conveying pig lead to St. Louis was 1.36 c. per lb. Including the freight the cost of the lead delivered at St. Louis was 4.125 c. per lb.

In the Southeast, the lead produced from 1851 to 1860 was carted during most of the period to the old points of shipment on the Mississippi River, but in 1853 the construction of the Iron Mountain railway was begun from St. Louis, and although it progressed but slowly, it reached Pilot Knob by 1858, and thus for several years preceding furnished an easier line of transportation to the Mississippi River, the railway running

[1] Geological Report Along the Line of the Southwestern Branch of the Pacific Railway, State of Missouri, pp. 65–66.

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southward from St. Louis in such a way that it traversed the most important portion of the lead country, passing within 25 miles of nearly all the productive mines and much closer to most of them.

The Southwest was not so well favored in this respect, its lead having to be carted long distances to river points. Some went as far north as Boonville, on the Missouri River, and a large quantity was taken to Linn Creek, on the Osage River, while another large portion went to Fort Smith, on the Arkansas River. According to Swallow the usual cost of transportation from the furnaces in southwestern Missouri to St. Louis during 1851–1860 was $1.25 per 100 lb. This was a large deduction to make from the value of the product at St. Louis, but fortunately the price for lead ruled high during most of this period. The miners were paid generally $16 per 1000 lb. of ore, which may possibly have yielded about 650 lb. of lead, on which assumption the cost of lead in ore would have been about 2.5 c. per lb. Adding 0.5 c. per lb. for cost of smelting, and 1.25 c. for freight, the total cost at St. Louis would have been about 4.25 c. per lb. The market price ranged from 4.30 to 6.20 c. per lb. Out of the price received for his ore the miner had generally to pay a royalty of about $2 per ton.

Work was begun on the Southwestern Branch of the Pacific Railway, the present St. Louis & San Francisco, in 1855, but up to 1858 only 18 miles had been constructed, and in 1860 it was only as far as Rolla, so that it was not of much service to the mining interests of southwestern Missouri during this period.

Just when the production of lead in southwestern Missouri was beginning to attain large proportions, operations were checked by the Civil War. The district was contested territory, which caused mining to be stopped entirely at times. The Granby mines and furnaces were worked alternately on Federal and Confederate account. In southeastern Missouri there was not so much interruption to mining, its lead districts being outside the zone of active hostilities, though there were some raids in certain of them, and the Mine la Motte furnaces were destroyed by the United States Government in 1861. They were soon rebuilt, however, and were operated vigorously under the stimulus of the high price for lead, producing over 3500 tons of lead from 1861 to 1864. With the exception of Mine la Motte and the Valle mine there does not appear to have been much active operation in southeastern Missouri at this period. One of the effects of the Civil War on the lead industry was to cause a very high price for the metal, which rose to 12.8 c. per lb. in 1864, and in 1865 was 10 c. per lb., *loco* St. Louis. With the close of the war this naturally led to a vigorous resumption of mining.

The St. Joseph Lead Co. was organized in 1864 to purchase La Grave mines at Bonne Terre, St. François County, active operations upon which

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were begun during the following year. A mining, milling, and smelting plant was erected, but the production for several years was small. In 1865, Mr. Henry T. Blow, who was instrumental in founding the Collier White Lead and Oil Co., some 25 years earlier, obtained a lease of the Granby mines in Newton County, and immediately began energetic mining, his enterprise developing into the Granby Mining and Smelting Co. That company has ever since been the most important producer in southwestern Missouri, while the St. Joseph Lead Co. has been the most important in the Southeast.

The most important event in the entire history of lead mining in Missouri occurred in 1869 when the St. Joseph Lead Co. began prospecting at Bonne Terre with the diamond drill for deep deposits of ore.[1] It resulted almost immediately in the discovery of disseminated ore at a depth of about 120 ft., and led to the mining of those deposits, which although of low grade are of such magnitude that their aggregate lead content caused the shallow networks of Cadet, Palmer, Potosi, and elsewhere to fade into insignificance and raised Missouri to its present great importance as a lead-producing State. According to Mr. Francis La Grave, son of the former owner of the Bonne Terre lands, some prospecting with the churn drill before the war had showed the existence of disseminated ore at a depth of 80 ft., but apparently the importance of the discovery was not then appreciated. Ever since the discovery of the St. Joseph Lead Co., the diamond drill has played an important part in prospecting in this district, being more extensively used and more valuable as a means for prospecting than in any other metal-mining district of the United States outside of the Lake Superior copper region.

According to the statistics of the Ninth Census there were 42 producing mines in Missouri in 1870, which employed 539 men, and produced about 3500 tons of lead, but the largest single producer, namely the Mine la Motte, was omitted from the enumeration. Its output in 1870 was nearly 2600 tons, and the statisticians of the Missouri Geological Survey believe that the true total for the State was approximately 7000 tons. The Granby mines in Newton County gave employment to 300 men. In Jasper County there was only one mine in operation, it employing five men. According to Schmidt, there was not a single house standing on the present site of Joplin in 1870. However, there was soon to be an important change.

In August, 1870, J. B. Sargent and E. R. Moffett discovered lead ore in large quantity within what are now the city limits of Joplin. The Moon diggings, on East Joplin hill, were opened about the same time. The ore-bodies were rapidly developed, and by 1871 two smelting works were running. That of Riggin & Chapman had three or four air furnaces

[1] J. Wyman Jones, History of the St. Joseph Lead Co., p. 17.

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and six or eight Scotch hearths, while that of Moffett & Sargent had three air furnaces. The lead was hauled to Baxter Springs, Kansas, and thence shipped by railway to St. Louis. In 1871 Patrick Murphy bought the land on which Joplin now stands, and the town, first called Murphysburg, was laid out. Discovery quickly succeeded discovery; the limits of the district were rapidly extended; miners flocked in from all directions. In 1874 the population of Joplin is said to have reached 5000, about 1000 miners being employed, while seven Scotch hearths and six reverberatory furnaces were in operation. In the same year, the Memphis, Carthage & Southwestern Railway, now a part of the St. Louis & San Francisco, was built. Mining was begun at Webb City in 1875, and at Carterville in 1876. The mines at Oronogo and along Turkey Creek had previously been discovered. From this time Joplin became a large producer of lead ore, but nevertheless it is essentially a zinc district, and the value of its lead output was soon surpassed by its zinc ore, of which the first shipments were made in 1872. The further history of this important and interesting district will therefore be treated in the division of this work relating to zinc.

The later history of lead smelting in the Joplin district may be briefly summarized. In 1876 the Lone Elm Mining and Smelting Co., the successor of Moffett & Sargent, erected a new plant of 16 Scotch hearths at Joplin, at which the Bartlett process of making sublimed white lead was introduced in 1878. In 1886 the works passed successively into the hands of the Moffett Smelting Co. and Joplin Lead Co., and in the following year was sold to the Picher Lead Co., which has operated it ever since. The dates of other smelting enterprises were as follows: Davis & Murphy, Joplin, four air furnaces, 1872–1880. Corn & Thompson, 1872, Joplin, four air furnaces. P. Murphy, near Duenweg, two Scotch hearths, 1873–74. Jasper Lead and Mining Co., Joplin, four air furnaces, 1873–74. O. H. and W. H. Picher, Joplin, 1876–1880. Porter & Dorsey, Joplin, 1876–1880. Granby Mining and Smelting Co., Joplin, 1877–1878, the plant being removed to Granby in the latter year. Galena Lead and Zinc Co., Galena, Kan., 1879–1886, the plant passing into a succession of hands after 1880. West Joplin Lead and Zinc Co., Joplin, six Scotch hearths, 1880. Case & Serage Lead Co., Grand Falls, 1892–95. These and others of minor importance are referred to with considerable detail in an article by D. Brittain in the *Engineering and Mining Journal* of Nov. 9, 1907. The only smelters in operation in the Joplin district at present are those of the Picher Lead Co. at Joplin (1876); Granby Mining and Smelting Co., Granby, Mo. (1865); and C. V. Petraeus Smelting and Manufacturing Co., Galena, Kan. (1902).

Going back in the narrative to southeastern Missouri, developments were much less rapid than in southwestern because of the more elaborate

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mining and milling methods that it was necessary to install. It was early obvious that the low-grade disseminated ores could not be extracted and worked in the same simple manner as the small, but rich, shallow deposits, though it is doubtful if the kind of methods that would really be required was appreciated at all. The Mine la Motte, still working the old, superficial deposits, continued to be the largest producer in the Southeast during the early seventies, its output of pig lead having been 2564 tons in 1870, though the rate of production was reduced by a fire which destroyed 12 furnaces in 1872; in 1876, however, it rose to 2914 tons. In the meanwhile the output of the St. Joseph Lead Co. was steadily increasing; in 1869 it was about 22 tons of lead monthly; in 1874 about 122 tons; and in 1879 about 350 tons. In 1874 the construction of a railway to connect its mines with the Iron Mountain line at Riverside, on the Mississippi River, was begun. In 1878 the Desloge mill and smeltery adjacent to the St. Joseph works were put in operation, and in the same year the exploitation of the deeper-lying disseminated ores at Mine la Motte was begun in a systematic manner.

In 1881 there were three mines in southeastern Missouri opened on the disseminated ore, viz., the St. Joseph and Desloge at Bonne Terre, and the Mine la Motte. The mill and other works of the St. Joseph Lead Co. were destroyed by fire in 1883. They were immediately rebuilt on a grander scale and more in conformity with the requirements of the ores. The adjacent Desloge mill was burned in 1885, and the mine was purchased by the St. Joseph Lead Co. in 1886, which company has been continually adding to its holdings until it has become the largest owner of lead lands in this district. The Doe Run mine, near Farmington, was opened in 1887. The Flat River mines, a few miles south of Bonne Terre, were first opened in 1890.

The Mississippi River & Bonne Terre railway was completed from Riverside to Doe Run in 1890, whereupon the St. Joseph Lead Co. removed its smelting furnaces from Bonne Terre to Herculaneum, continuing, however, to roast the ore at Bonne Terre, whence it was shipped as slag. The Doe Run Lead Co., affiliated with the St. Joseph, adopted a similar policy, shipping its slag-roasted ore to the St. Joseph smeltery at Herculaneum.

About 1871 there was a considerable change in the smelting practice in Missouri, a form of reverberatory furnace known as the Drummond, or air furnace, being extensively substituted for the Scotch hearths, which had been almost exclusively in use during the previous 20 years. A description of this furnace is to be found elsewhere in this work. It is uncertain where it first came into use, but it appears to have been employed at Bonne Terre and other points in southeastern Missouri a little before 1871. Form there it spread to the other districts of the State,

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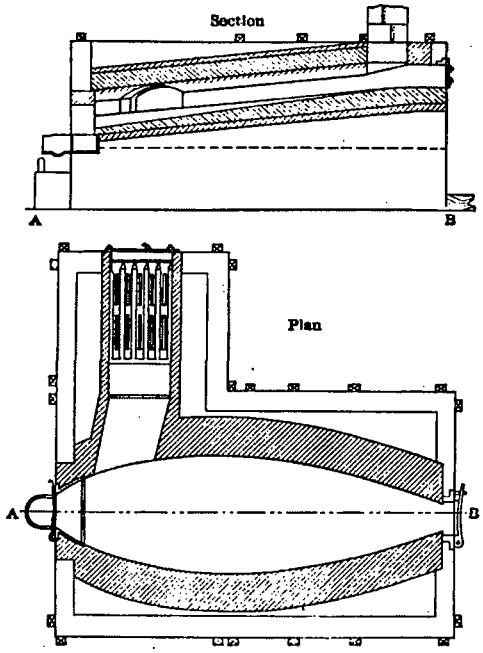
and from its success no doubt certain smelters were led to construct Flintshire furnaces, which are a more highly developed form of reverberatory. A few blast furnaces also were erected, especially to reduce the gray slag, rich in lead, which is produced both by the Scotch hearths and the reverberatories. In 1876, according to Williams, there were in Missouri 52 reverberatory furnaces, 29 Scotch hearths, and seven blast furnaces. The St. Joseph Lead Co. began in 1878 to substitute blast furnaces for its reverberatories. From that time onward the major



The Air, or Drummond, Furnace.

portion of the galena concentrate produced in southeastern Missouri was smelted in blast furnaces, although the Desloge Consolidated Lead Co. has always stuck to the use of reverberatories, until early in the present century the Scotch hearth and bag-house method was adopted at two new, large plants. The development in the metallurgical practice of this district has been treated fully in an earlier chapter.

Since 1891 the history of the southeastern Missouri district has been

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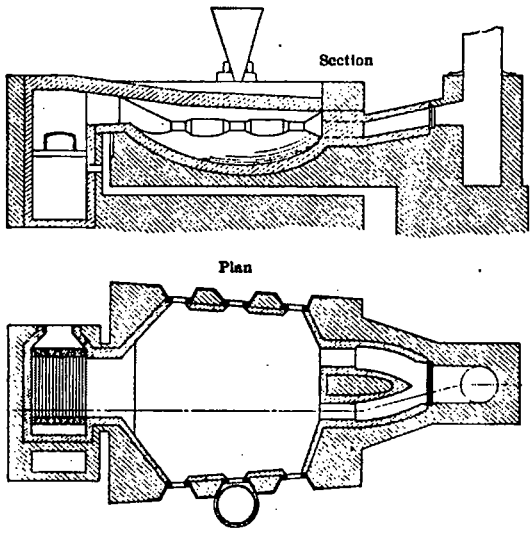
simply a record of steady growth. The Doe Run mine, which occurred in an outlying, isolated territory, had become practically exhausted as early as 1895, but with that exception there has not yet been any failure of the great ore-bodies, and the known extent of the lead-bearing area of the district has been increased year by year. The development in 1890 of the mines at Flat River, where diamond drilling was begun in 1888, and their brilliant success, first directed attention to the probable widespread occurrence of the disseminated ore and stimulated prospecting beyond the limits of Bonne Terre, which previously had been the chief center of the mining. In this extension of interest, Mr. H. J. Cantwell



Flintshire Furnace formerly used at Frumet, Mo.

of St. Louis, who organized the Central Lead Co., operating at Flat River, was largely instrumental. In 1899 the producing companies of the district were the St. Joseph, Doe Run, Desloge, Central, Columbia, and Mine la Motte. The Catherine had developed an ore-body on land adjoining the Mine la Motte domain, and the St. Louis Smelting and Refining Co. (a subsidiary company of the National Lead Co.) was building a large mill at Flat River to dress the ore of mines it had acquired there. All of these companies were in a prosperous condition. It was the year of great industrial consolidations, and promoters in looking for new possibilities sought to acquire this group of profitable mines, but the terms asked for them were too high to afford an adequate margin for profit.

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Their owners were so well satisfied with their investments, with the good returns the mines were yielding and with the strong prospect of their indefinite continuance, that there was no inducement to them to give them up.

That policy has since then been generally adhered to, the Central mine having been the only one to pass into a consolidation, although several others have changed hands. In 1900 the Guggenheims became interested in the district, buying the works of the Missouri Smelting Co. at St. Louis, and some partially developed mines at Flat River, which were organized as the Federal Lead Co. After some early mishaps, due partly to an attempt to introduce some novelties in the well-settled milling practice of the district, this company was put upon a profitable basis, and eventually became one of the important factors in the lead production of the district, especially after the construction of its large smelting works at Alton, Ill., the small plant at St. Louis having previously been abandoned. In 1905 the Federal Lead Co. purchased the Central mine, paying a large price for it. In the meanwhile, the St. Louis Smelting and Refining Co. had developed its mines at Flat River with great success, had constructed a large smelter at Collinsville, Ill., and had become one of the large producers of the district. In 1906 the Guggenheim interests acquired large holdings of the stock of the National Lead Co., and if not actually securing the control of that company, at least brought it into a community of interest. Consequently, at the present time the major part of the output of lead in southeastern Missouri is made by, and the largest areas of proved lead-bearing land are owned by, the Guggenheims and the St. Joseph-Doe Run companies. The only independent producers are the Desloge and several small mines in the vicinity of the Mine la Motte.

The most serious difficulty in lead mining in southeastern Missouri in recent years has been due to labor troubles. As early as 1899 it was troublesome to secure an adequate supply of miners, and the men at work in the district and available were comparatively inefficient. The results of their work were strikingly unsatisfactory when compared with those attained in zinc mining in southwestern Missouri. In the Southeast there were mines equipped with costly plants of the most modern design, opened in bodies of easily broken ore that often presented working faces 50 ft. and more in height, and of almost any width desired, operated through shafts of moderate depth, in many cases with only an insignificant amount of water to be pumped, and no timbering required anywhere in the stopes. In the Southwest there were mines equipped on almost a ridiculously petty scale, opened on bodies of the hardest kind of chert, affording a working face only 8 ft. high, operated at only a little less depth than in the Southeast. And yet mining and milling on the basis of only

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200 tons per day was done for less per ton in the Southwest than on the basis of 1200 tons per day in the Southeast.[1] The only explanation of this is to be found in the lower efficiency of the labor in the Southeast, a conclusion which is borne out by an analysis of the mining costs.

Up to 1900 or 1901 the miners in southeastern Missouri, although inefficient, had been at least docile. There had never been any serious labor troubles. About that time, inspired perhaps by the great demand for labor and incited by agitators, the miners began to organize, and unionization having been effected, the companies were called upon to reduce the day's work from 10 hours to 8 hours with no change in pay. This resulted in strikes at certain mines, where the demand was refused, and some turbulence, there being a disgraceful disinclination to maintain order, or at least incompetency, on the part of the county and State officials. Victory was eventually gained by the miners, some of the companies having yielded without any fight, and as a result the cost of mining and milling in the district was materially increased. However, this happened at a time when the price of lead was high as compared with the averages of certain years in the previous decade, and the high level having been maintained up to 1907 the companies continued to make large profits and the statistics have shown a constant increase in production.

[1] This comparison is not, of course, strictly correct, because the company milling 1200 tons per day would be operating three shafts.

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THE

ENGINEERING MAGAZINE

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THE IMPORTANCE OF THE UNIVERSAL EXPOSITION OF 1900.

By J. C. Charpentier.

THE exposition of 1900 is now on the carpet. It is the question of the hour, and even in the remotest quarters of the globe it is the subject of many conversations and the occasion of many projects. In France the preparations for it are going forward with activity and are followed with interest; the temporary scaffoldings of the Pont Alexander III already stretch across the Seine, and a large part of the Palais de l'Industrie, one of whose wings sheltered but a few days ago the victims of the frightful fire in the Rue Jean Goujon, has been torn down. In foreign countries, especially in Germany, England, and in fact the whole of Europe, committees are being formed, plans are being sketched, and projects are taking shape; and even in the United States, where until lately more pressing problems, such as were involved in the national election, had absorbed the attention of the public, the current in favor of the exposition is swelling rapidly, and President McKinley invites his fellow-citizens to the great assizes with which a sister republic is to celebrate the close of the century.

And in Europe as well as on this side of the water the thought of every one reverts to the brilliant success of the exposition of 1889, which seems to have been the most memorable triumph imaginable, tempting one to renew the objection of a certain member of a former French cabinet: "What is the use of a new exposition, and how is it possible to break the record of 1889?"

Indeed, it was not simply a considerable competition of more than 60,000 exhibitors, an influx of more than 1,500,000 visitors from foreign countries and of 5,000,000 from the departments of France, but also an unprecedented movement of money, an enormous increase in commercial exchanges, in railway receipts (which made a leap that

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CHARACTERISTIC AMERICAN METAL MINES.

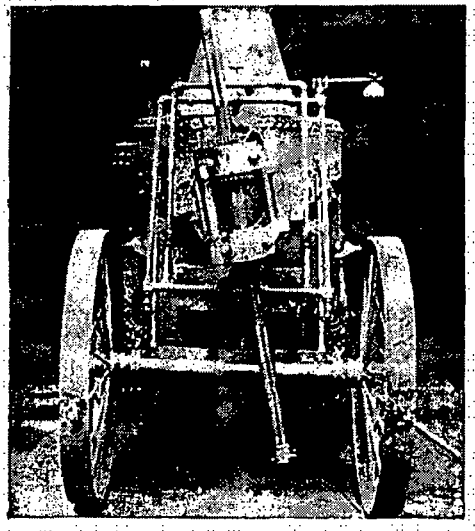
By J. Wyman Jones.

I. THE PLANT OF THE ST. JOSEPH LEAD COMPANY.

ANY one visiting the immense caverns, hewn from solid lime-rock, in the process of mining on the property of this company, located in southeastern Missouri, would require no other evidence of the magnitude of the work there accomplished.

About fifty acres of underground rooms are witnesses of the millions of tons of rock that have been blasted, broken into sizes suitable for one man to handle, hoisted to the surface, crushed, and concentrated! These rooms are sustained by columns and arches, left in the progress of the work, and vary in height from twenty to seventy feet. They are inhabited, night and day, by men drilling, blasting, and loading rock, and by sleek mules which rarely, if ever, see the day-light.

The company was organized under the laws of New York on March 25, 1864. The capital stock (a million of dollars) was issued for the nine hundred acres of land first secured, and little was done until the meeting of the stockholders held June 13, 1865. At that time a board of trustees was elected, none of whom had any practical knowledge of lead-mining; but all were determined to push the work of development. The writer was elected president on September 25, 1865, and has held the office continuously ever since.



THE DIAMOND DRILL.

Lead mining in Missouri was exceedingly crude at this time, though carried on to some extent in several parts of the State. Here and there surface deposits were found and

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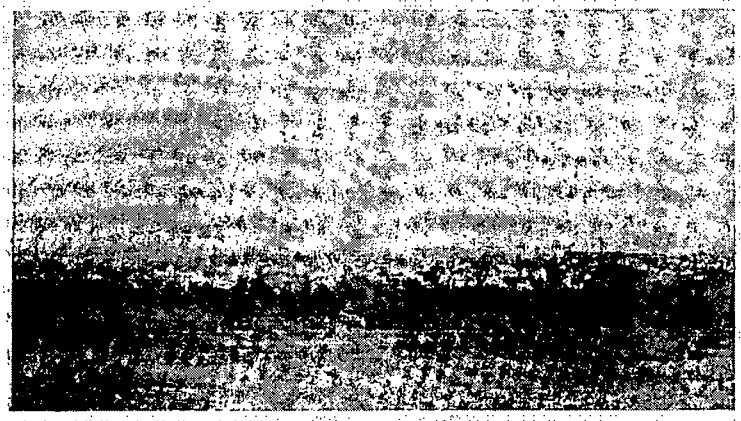
BONNE TERRE IN 1865.

quickly worked out. Drilling was done by hand. Horizontal sheets from eight to eighteen inches thick were found in few places. No true veins had been discovered. No attempt had been made to work deep shafts. Continuous work was prevented by changes in the weather. In wet, very warm, or cold weather the open-cuts could not be worked. The disseminated surface-ores were mostly of fair quality. These were crushed, jigged, and washed by hand, and smelted in old-fashioned reverberatory furnaces, or "Scotch hearths."

After a fair trial of these unsatisfactory processes without profit, this company determined upon a more vigorous policy.

In May, 1867, the services of Mr. C. B. Parsons, as superintendent, were secured, and this able and excellent manager still remains in that position. Not long thereafter it was determined to search below



BONNE TERRE IN 1897.

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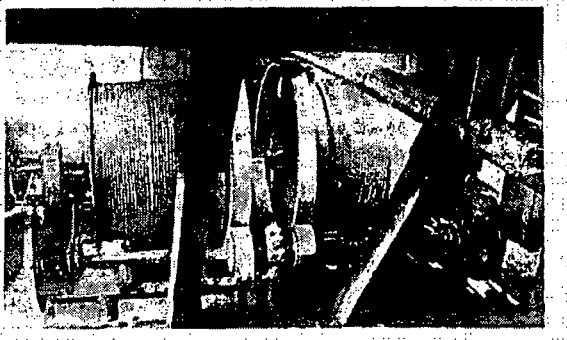
the surface for deposits and to abandon surface work. A diamond drill (then first introduced to the public) was secured, a boring of 120 feet was made, and a shaft sunk. The diamond drill was the beginning of success. Once well below the surface, the work grew interesting.



THE DOUBLE HOISTER.

Drifting was commenced at the bottom of the shaft, and soon fair ore was discovered. From that day forward to the present date all mining has been done at depths ranging from 120 to 500 feet. With uninterrupted work, night and day, the output soon increased. In the thirty years which have elapsed since that day the huge caverns mentioned in the first part of this article have been blasted out, and have furnished the enormous tonnage of rock from which the lead has been extracted.

These excavations have grown naturally into their present proportions, in the course of development. They commenced with ordinary stopes, seven or eight feet in height. As drifting in these

THE MILL.

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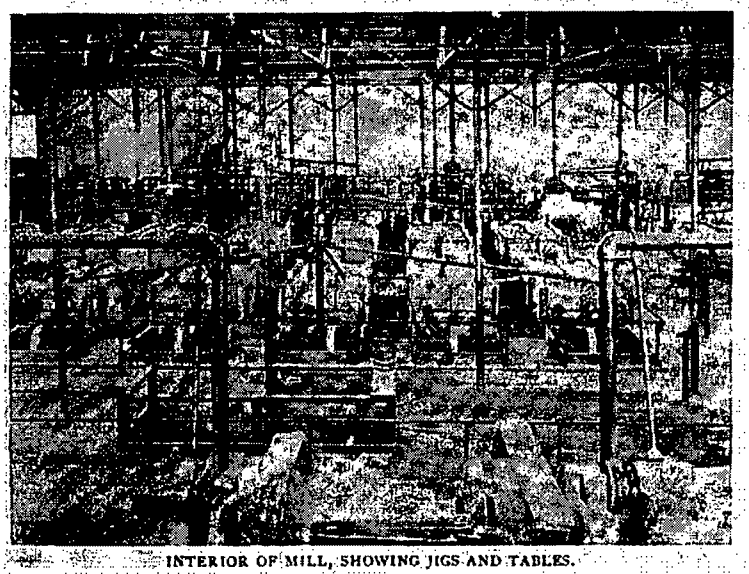
MILL, WITH TWELVE CRUSHERS AND MINED ROCK.

stopes continued, and as fair ore appeared in the top or bottom of any stope, the ore was taken out. A narrow track, about three feet wide, was laid in the bottom of each stope, and extended as fast and far as the drift was carried. All the rock was broken, lifted by hand into iron cars holding about a ton, and rolled, either by



INTERIOR OF MILL, SHOWING JIGS AND TABLES.

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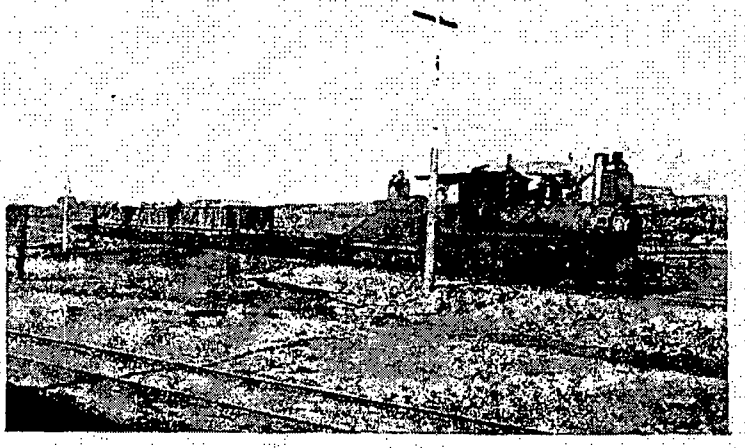
THE SMELTING PLANT.

hand or mule power, to the hoisting shaft. There it was lifted to the surface. The capacity of the double lift is a car for every minute in the twenty-four hours.

When working in the bottoms of these stopes, the tracks were lowered as needed, first on one side of the stope and then on the other. As the blasting of rock went on at the top of the stope, or



A TRAIN LOAD OF ORE.

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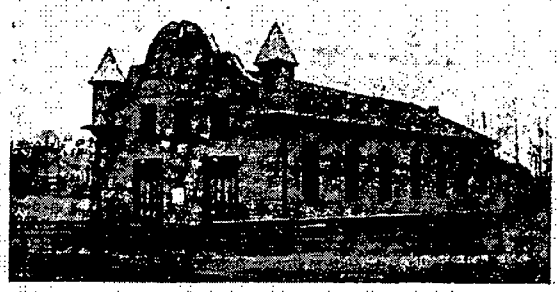
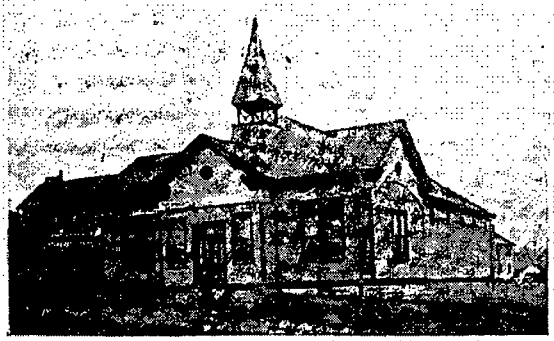
at the bottom, or at the sides, the large rooms appeared in some cases from seventy to one hundred feet between roof and floor.

We have considered electricity as a power in the mines, but have not adopted it underground, either for lighting or for a motive power. The destruction of wires for lighting by heavy blasting, and of engines upon tracks, and the constant necessary changes of the tracks, have been obstacles too serious. The only use we have made of electricity has been for lighting the mill and works on the surface, and for blasting with the electric battery.



LYCEUM AND PUBLIC HALL.

We are at present hoisting from eight different shafts lying an average distance of one-fourth of a mile from each other, and varying in depth from 150 to 450 feet. The ores from all these shafts are delivered at the mill for dressing,—a part of them in iron cars drawn by mules on tracks laid in the mines, and a part by engines and cars on surface tracks.



NATATORIUM.

The ores of these mines are low-grade sulphids (Galena) associated with iron and copper pyrites, arsenic, nickel, and cobalt, and a trace of silver. The separation of these mineral substances from the ore disseminated through the country rock, and the concentration of the mineral, is an elaborate process, requiring rock-breakers, crushing rolls, sizing-apparatus, jigs, and percussion-tables. Although the ore

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hoisted from the mines has seldom more than eight per cent. of lead, the result of the concentration is a product containing from sixty-five to seventy-five per cent. of lead.

Since the underground work was undertaken, the business of the company has been steadily extending. By the use of the diamond drill, the percussion drills, dynamite, double hoisters, pumps of

CATTLE BARNS AND CATTLE, BONNE TERRE FARMING COMPANY.

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very large capacity, railway tracks, dump cars, improved air-compressors, and other modern facilities, the product has been increased from forty tons of pig lead a month to at least forty-five tons a day.

Notwithstanding this steady drain upon the mines, there is at present no falling off in supply. As the percentage of lead in the ore remains about the same, an immense tonnage of rock is crushed daily, averaging not less than one thousand tons!

The old styles of smelting have long been abandoned. A new smelting plant has been built on the Mississippi river, twenty-seven miles from the mines, midway between the mines and St. Louis, where all the mineral is smelted in blast furnaces.

One of the greatest obstacles in the way of a larger development was the need of better facilities for transportation. Located, as the mines are, fifteen miles from the Iron Mountain Railroad and twenty-seven miles from the Mississippi river, the company was dependent upon mule teams for moving both product and supplies, as well as ores, waste rock, and tailings. These became wholly inadequate. In 1880 the company completed a narrow-gage road to Summit, a station on the Iron Mountain Road, and in 1887 began the building of a standard-gage railway to the Mississipi river at Riverside, near the location of the smelters. This road was completed in 1890, and since then has been extended twenty-five miles southerly, and is now owned and operated by the Mississippi River & Bonne Terre Railway Company. Its cost was more than $1,100,000. It is fully equipped, passes through a splendid lead district, is fifty-two miles in length, and has proved a complete success.

This road has greatly reduced the cost of operating the mines, by the use of spurs and tracks to the different shafts, besides greatly lessening the cost of coke, coal, and other supplies, as well as the expense of marketing the product and handling tailings, etc.

From time to time large tracts of mineral and other lands have been added to the original plant, until they include about fifteen thousand acres. A new mill and dressing works (wholly of iron) have been constructed, and supplied with modern machinery.

A large number of dwellings have also been erected. Large expenditures have been made for new shafts and hoisting engines, underground pumps, etc., and the smelting plant has been built on the Mississippi river at Herculaneum. The capital of the company is now three millions of dollars. The company, previous to 1891, had developed an extensive farming business; and, as under the laws of Missouri, this use of its lands seemed questionable, the surface rights of all lands (reserving all mining rights) were transferred in that year to the Bonne Terre Farming and Cattle Company, a corporation organ-

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ized to work the same. This company is now engaged in an extensive milk and dairy business.

The lead company has never suffered from a strike. It has paid good wages, and paid them promptly. Some of the present employees have continued with the company from the start—very many of them for years. An interest is manifested in all employees and their families. Good schools, churches, a free library, a hospital, etc., are maintained. A public hall, a swimming pool, and a bath-house have been built by the company.

A village of from five to six thousand inhabitants has grown up around the works, called Bonne Terre, where all the comforts and conveniences of modern life are found. This prosperous town is in marked contrast with the place as it was in 1865, and is now the centre of a thriving farming country.

There has been no conflict between the company and labor. About one thousand men have been steadily employed for thirty years.

It will be observed that the ore worked by this company is very *lean;* that immense quantities of rock have been handled; that its large product has resulted from the use of the diamond drill and other power-drills, high explosives, and most approved dressing and smelting works, accompanied by an energetic and careful management; and that a large part of the success attained has been secured by maintaining harmonious relations, through all these years, with labor.

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A BRIEF HISTORY OF FLAT RIVER

By W. A. McGraw

The scriptures tell us, "In the beginning God created the heavens and the earth." Flat River was a part of the creation referred to in this passage of scripture; however, the writer has no record nor information concerning the creation of this particular territory until about 1885, at which time what is now the City of Flat River and surrounding community was a peaceful agricultural community, inhabited by a few sturdy pioneer citizens who devoted their time and energy entirely to agricultural activities, having as their right to the home they occupied a grant from the Spanish government, instead of a warranty deed from some individual.

Among these families we find the names of Coffman, Williams, Walton, Shannon, Crawley, Taylor and Shaw. Many of the descendants of these families are now among our citizens. There were no doubt other families who played an important part in the opening and development, but the writer has been unable to get records of them.

There was a postoffice named Flat River somewhere in the vicinity of Pleasant Valley about one and one half miles from Elvins. Most of the citizens of the present town of Flat River received their mail at Elvins, which was at that time called Setz.

About 1885 or '86, lead was discovered in Doe Run, and progressive mining was pursued which was the beginning of a move that was to make Flat River and vicinity the greatest lead producing area in the world.

Along about 1890 the Doe Run Lead Company was organized and incorporated by Messrs. Parsons, Kemp, Setz, Jones and Graves, together with officials of the St. Joseph Lead Company. The company very soon optioned large acreages from Coffman and Walton in the vicinity of Flat River, and from Kenner and Hampton in the territory of Elvins.

No actual mining had been done, except some shallow prospecting on the Shaw tract, which later became the property of the Central Lead Company. On the advent of the organization of the Doe Run Lead Company and the optioning of land, the company immediately began prospecting with diamond drills with George K. Williams, now of Farmington, Mo., diamond drill foreman.

According to our best information, the actual discovery of the rich deposits in this immediate vicinity was due to an employee failing to follow his orders to the letter. Many holes had been put down of approximately the same depth [that]had been drilled in the Doe Run area, without having found any sign of lead. This employee, namely Mr. Williams, was persistent in his belief that they were not drilling deep enough, and through a friendly conspiracy with F. P. Graves, who was a stockholder and

secretary of the company, Mr. Williams obtained extra footage of drill rods and experimented by drilling some 150 feet deeper than had been drilled. The first hole put down at this depth produced amazingly rich quantities of lead.

It is quite a speculation yet among some of the old timers as to whether Mr. Williams, in his state of excitement, actually walked from Flat River to Doe Run to carry the news to Mr. Graves, or whether he secured a horse and rode. We do know, however, that Mr. Williams conveyed the news of this great strike to his friend and superior officer in record time.

Shortly after the discovery of these rich deposits, the first No. 1 Doe Run Lead Company shaft was started back of the present home of Charles Mergentheimer, about one-fourth mile south and west of the Missouri-Illinois depot. At a depth of 89 feet, a heavy flow of water was encountered and the sinking of this shaft was abandoned on July 4, 1891.Libb

Immediately after this, the present Doe Run Lead Company No. 1 shaft, located about 100 yards south of the Flat River City Hall, was started, was bottomed and producing by May, 1892.

In was in this shaft that the first fatal mine accident occurred in the lead belt. Charles Libby, who was the superintendent, was instantly killed when he fell from the surface to the bottom of the shaft. John J. Bennett, an employee of the company, was delegated to go to Farmington, the county seat, to notify the coroner of the accident. On Mr. Bennett's trip, which he necessarily made by horse-back, he met the late Dr. F. L. Keith, who stated that he was lost and inquired direction to the John Dosing home. It later developed that the purpose of Dr. Keith's call to the Dosing home was to officiate at what is believed to be the birth of the first child to be born in Flat River.

In May of 1891 there were six small box houses on what is now Flat River's Main Street. Even at that late date, only two stores were operating in Flat River, one by the Williams Brothers, and the other by W. C. Norwine. The Norwine store was located on the present site of the home of Mrs. C. D. Richardson, the Norwine home adjacent where the O.K. Service Station now stands.

The Williams Brothers store was located on the site now occupied by the Norwine Mercantile Company. It was in this building that the first post office was established in Flat River proper. The Flat River post office, formerly referred to as being near Pleasant Valley, was abolished and the office established here with George K. Williams as postmaster.

The first church, a Free Will Baptist, was located where the H. H. Moore residence now stands, about two doors west of the present Presbyterian Church, and had as its first pastor, Rev. Fred Combers. It was in this building that the first school was taught by Miss Alice Highley. Before the establishment of the Free Will Baptist Church, the members held their meetings over the Williams Brothers store. It is said that these meetings were very spiritual, although many times a part of the congregation had to use beer kegs for seats.

The first school building was where the present Home Economics and Library building stands, and was taught by Jesse Garrett, who remained a resident of Flat River until only a few years ago.

In 1891 the M.R. & B.T. Railroad, then a narrow gauge, was extended from Bonne Terre to Doe Run, and operated the first passenger train through Flat River on December 24 of that year.

In summing up these events, we find that what was peaceful farming community has, within less than fifty years, developed into " The Lead Capitol of the World."

W. A. McGraw.

Note: Grateful acknowledgement is hereby extended to Mr. J. J. Bennett and daughter, Myrtine, for their assistance in preparing the above. W. A. M.

Published by THE LEAD BELT NEWS, Flat River, St. Francois Co. MO, Fri. Aug. 1, 1936.

State of Missouri

Missouri Mines Inspector
Lead Mining Report—1901
St. Francois County

This county for the year ending December 31st, 1901, shows an increased output compared with the fiscal year ending June 30, 1900, of 34 percent. The lead ore production of the county for the year was 144,856,000 pounds as against 108,074,000 pounds for the year before; an increase of 36,782,000 pounds or 18,391 tons. The increase in the value of the ore for same time was $671,593. The value of the lead ore product for the year was $3,119,389, as against $2,447,796 for the former year.

The number of acres of mineral land owned by the several mining companies is given as 21,345 acres. This by no means covers the entire acreage owned by the different mining companies, but rather represents the proved mineral bearing ground as far as tested.

The six mining companies which were operated during 1901 operated number 21 in all, with shafts averaging 345 feet in depth. There were 1,353 miners and 1,117 surface men employed or a total of 2,470 men with an average daily wage of $1.65.

There were in use during the year six concentrating plants, 89 boilers, 69 steam pumps, 22 air compressors, 26 steam hoisters, 59 crushers and 459 steam jigs.

The companies operating during the year 1901 are as follows: St. Joseph Lead Company, Bonne Terre; Doe Run Lead Company, Doe Run; St. Louis Smelting and Refining Company, St. Francois; Central Lead Company, Flat River; Desloge Lead Company, Desloge; Columbia Lead Company, Flat River, and Elizabeth Lead Company.

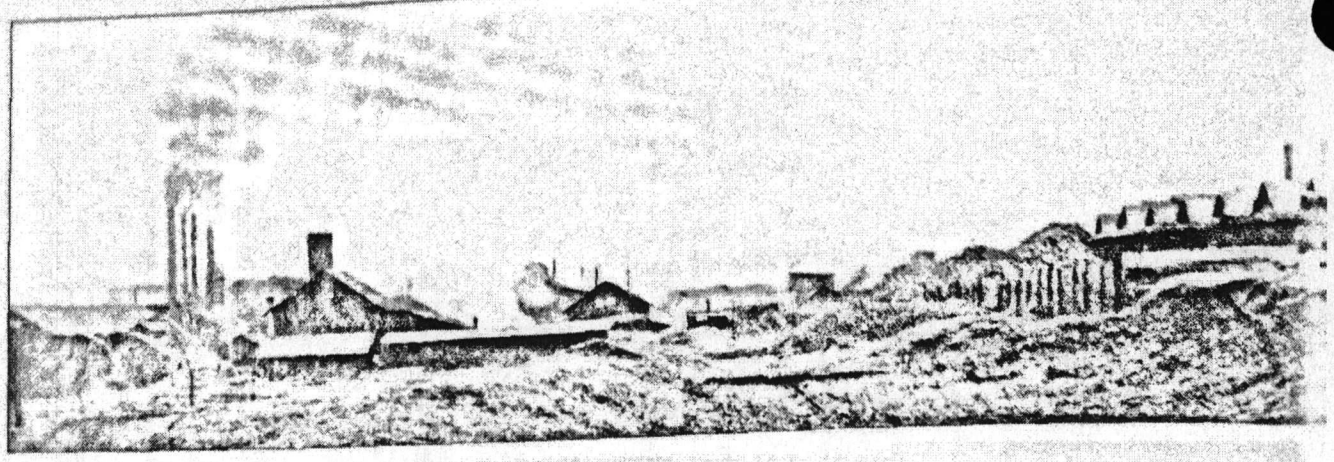
For the current year several new companies with mines developed to the producing point may be expected to add to the county output; then again several of the old companies have sunk new shafts and in some instances very fine bodies of ore demonstrated. With increased production from such sources and the constantly increasing product from the older concerns, we may expect an output from this county exceeding 80,000 tons.

An important feature associated with the mines of this county and absent in too many mining districts of this country, is that continuity of the ore bodies peculiar to this county and the further fact that nearly all of the mining companies own immense tracts of mineral land. In some cases ages would be required to exhaust the ore and it is this that gives such a future, stability, and permanence to the mining business in this county.

As a permanent investment or as a legacy to be handed down to your children, and your children's children, where could one find a company or business offering better inducements or a backing to the investments equal to that furnished by some of the St. Francois mining companies. ■

Annual Report of the State Mine Inspector, 1901

Editor's Note: The 1888 Edition of Southeast Missouri Biography indicates that George K. Williams was the Missouri Inspector of the Mines.



Doe Run Company Mill, 1903. Photo The Daily Journal.

In 1890, The Doe Run Lead Company purchased a large tract of land and began prospecting. The first shaft opened in Flat River, was opened about 200 feet west of the old frame depot after an unsuccessful attempt to sink another shaft about 600 feet south or at the rear of 300 High Street. The next shaft sunk in Flat River by the same company was shaft No. 4, located 824 feet South 34-degrees East of No. 1 on the North-end of Donald Street. This shaft was sunk in 1899 to 1900. The shaft was flooded soon after it was finished and No. 5 which is approximately 100 feet North of No. 4 was sunk to unwater shaft No. 4. The next shaft sunk in Flat River was mine No. 8 of the St. Joseph Lead Company, known as the Crawley, and was completed in 1893. It is located about 2000 feet north 73-degrees East of Flat River station of the old Illinois Southern Rail Road, 1944 the Missouri Illinois in East Flat River about 12 East Main Street. The depth of the shaft was 480 feet. No. 15, owned by the St. Joseph Lead Company, was located on Chestnut between Adams and East Main Street.

This company owns 4,000 acres of valuable mineral land in the county and does a very large business. This company is largely controlled by the officers and stockholders of the St. Joseph Lead Company. The concentrating plant of this company is at the town of Doe Run. The equipment of the company is a perfect one and embraces at its reduction works and at its mines seven Blake crushers, 41 steam jigs and 18 double tables, 20 steam boilers at the mines and seven at the mill, seven steam pumps at the mines and ten at the mill, three large compound air compressors, and seven hoisters. Employment is furnished at its mill and mines for 668 men, distributed as follows: At the mines, 302 miners and 119 surface men; at the mill and furnaces at Doe Run, 247 men. The men in the mines acting as shovelers receive $1.70 per day; miners proper, $1.60; the surface and mill men from $1.25 to $1.55 per day.

Three mines, with shafts ranging in depth from 425 to 440 feet, were operated during the year, producing 33,064,390 pounds of lead ore. The average production for the past 14 and-a-half years has been 16,282,288 pounds of lead ore per year.

Mr. F. P. Graves, Assistant Superintendent and Secretary, has charge of and supervision over the mill and mines and a more competent man for the position will not be found in the State.

The Doe Run Lead Company was formed in 1886. J. W. Merryman owned a farm of 160 acres and found unusual streaks of lead in most every location on his farm. St. Joe was not interested in it because the location was too far from their mill. So Judge William Rolly Taylor took an option on the land and Gustav Setz, metallurgist for St. Joe, saw the possibility, and The Doe Run Lead Company was formed. It was a separate company, but some of the St. Joe people were on the board of Doe Run.

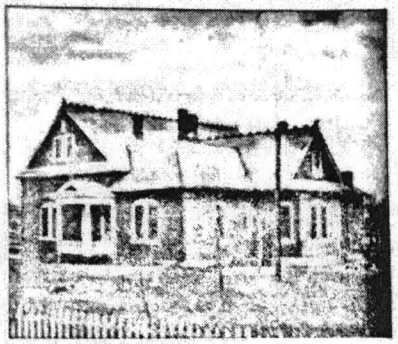
The lead in Flat River was almost by-passed. Doe Run Company optioned land about Flat River and drilled hole after hole, but did not find any ore. The officials were ready to give up, but George P. Williams, the driller, and Fayette P. Graves, one of the officials, entered into a conspiracy. Williams drilled 125 feet below the level at which the drillers had been stopping, and struck an unbelievable strata of ore. News of the strike leaked out so both Doe Run and St. Joe Lead Companies tried to option as much land as possible. Dozens of mining companies were formed and the boom was on. Some of the companies were: Columbia Lead Company, Union Lead Company (Doe Run Lead Company bought both of them), Leadington Lead Company, Derby Lead Company, Irondale Lead Company (these three were bought by Federal Lead Company), Federal Lead

Company, Desloge Consolidated Lead Company, St. Louis Smelting and Refining Company (called National Lead Company), Flat River Lead Company was formed by Judge W. R. Taylor who did much to develop Flat River. He sold to Central Lead Company between 1876 and 1900. (Central was then bought by St. Joe).

Ed Bequette and Bill DeGrant were two men who helped to sink the first shaft in Flat River. When Bequette was 98 and DeGrant was 93, a *Lead Belt News* reporter interviewed them. They said they helped to sink No. 1 shaft of The Doe Run Company in Flat River. It was sunk just south of the present Flat River City Hall. Mr. Bequette started with the shaft sinking in 1889 and finished in 1891. (Mr. DeGrant only worked four shifts, and he had enough of underground work, so he went to the surface and worked in the mill.) Today the shaft could be finished in a few months. The pay then was $1.60 per shift, and went up to $2.25 per shift as the shaft went deeper.

Towns developed as the mining companies consolidated. Much of Flat River's growth was from mining.

Federal Lead Company built Leadington as an employees' housing area. National Lead Company built St. Francois Village. ■



Superintendent's Office of The Doe Run Lead Company. Used by permission, State Historical Society of Missouri/Columbia.

The Doe Run Company Shaft No. 2 at Rivermines/Elvins, waiting shipment to the smelter. Photo The Daily Journal.

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16TH ANNUAL REPORT

OF THE

State Lead and Zinc Mine Inspector

OF THE

STATE OF MISSOURI

FOR THE

YEAR ENDING DECEMBER 31, 1902.

JEFFERSON CITY, MO.:
TRIBUNE PRINTING COMPANY, STATE PRINTERS AND BINDERS.

VHCIA

Missouri. Mines Bureau.
Annual report 1902 [part 1]

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SOUTHEAST MISSOURI.

ST. FRANCOIS COUNTY.

The total output of lead ore by all counties in the State for the year 1902, aggregated 252,618,000 pounds. This county alone produced of the above amount 177,468,000 pounds, or seventy per cent. of the entire production of the State.

This great production, as estimated by the several companies making the output, is valued at $3,592,938. We say estimated purposely, as the lead ore prices from the St. Froncois county mines, is not furnished us, as is the case from nearly all other mines in the State, which give us the actual receipts from the sale of the ore. Many of of the St. Francois county operators own the smelters and do not sell the ore, while others do not take the trouble to give us exact figures, but estimate the value of the ore. Was the lead ore product of the county disposed of at the average price obtained for it in every other county, it would be valued at $3,997,466.70, instead of $3,592,938.00, the difference being $404,528.70.

There are but eight companies represented in the county, having a capital of $7,900,000 invested in their business, with 22,247 acres of approved mineral land and twice that amount as yet not tested that is owned in fee simple; they operate twenty-one shafts and employ in their mines and mills 3,115 men. Some of the companies are so very independent, having a national reputation for being big and strong, that it is difficult to secure the same information willingly furnished us by the very great majority of the operators of this State. We hope to have more time this current year for investigation and possibly we may get the desired information.

The output of the county exceeds that of 1901 by 32,612,000 pounds, and its value by $473,549.00.

The transportation facilities of this county, insofar as the mines are concerned, could not be better, as the Mississippi River and Bonne Terre railroad passes through the county from north to south and the mines are all in close proximity to that road.

During the current year it is expected the Manhattan Lead & Land Company will commence sinking a shaft on its property.

The Manhattan Lead & Land Company owns 1,200 acres of land adjoining the lands of the St. Louis Smelting & Refining Company and the land owned by the Columbia Lead Company.

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The stockholders are all citizens of St. Louis, and include H. J. Cantwell, George L. Edwards, Edward Hidden, A. N. Edwards and D. N. Kirby.

A Diamond drill was operated on the tract immediately north and east of the plant of the St. Louis Smelting & Refining Company, and ten holes drilled on a fair body of ore.

ST. JOSEPH LEAD COMPANY.

This company was incorporated under the laws of the State of New York in the year 1864. Prior to this date some of the parties interested in the enterprise had purchased 964 acres of land, on which were located the "La Grave Mines." Mining surface ore continued much after the old methods and with unsatisfactory results until 1869, when this company introduced the first diamond drill brought to Missouri. After a repeated effort to find a lower run of ore, the diamond drill eventually brought to light the disseminated ore, peculiar to this section, and which has since proven the most extensive and richest body of lead ore found in any county. This famous company, ever alert, wasted no time in developing its territory and in furnishing the necessary plant to prepare its ore for market. The old method for smelting the ore was abandoned, as it did not permitt of the economical handling of the large product being mined. After many experiments, a radical change was made and a new process was introduced in 1879. With better equipment the business of the companw increased so rapidly that there was a continual demand for still further improvement. To transport the product from the mines over a rough and very ordinary country road to the Iron Mountain Railroad, proved too expensive a task, to say nothing of the very many serious delays occasioned by bad weather and a steadly increasing business. The company recognizing the necessity for better transportation facilities, at once set about the construction of a narrow gauge railroad from its mines to a station on the railroad called Summit. This narrow gauge road was thirteen and one half miles in length and was operated in the spring of 1880. In 1883 the concentrating plant took fire and was totally destroyed, involving a great loss to the company, not alone for the amount invested in the plant, but because of the delay and the dead expense of pumping and caring for the mines during the suspension of work. This company had become too strong to think of delaying matters, and in four months from the date of the fire, it had a plant in operation, capable of handling 1,000 tons per day of the combined rock and ore. This plant proved so well adapted for its uses, that it has worked successfully from that day to this, with of course such modern improvements added from time to time as its increasing business required. The narrow gauge road

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terminating at a station on the Iron Mountain road, left the company at the mercy of the Iron Mountain road, as far as freight charges were concerned, and the management decided upon an extension of its road to Riverside, a point on the Mississippi river, and also a junction point on the Iron Mountain Railroad, some twenty-seven miles south of St. Louis. Again, in 1893 its road was extended to Doe Run, sixteen miles south of the mines or from Bonne Terre, making its total length fifty miles. This extension resulted in the opening of the Flat river district, which has since become noted for its numerous mines and very large output of lead. The narrow guage road necessitating a transfer of freight to connecting lines, with traffic that had out grown all expectations, suggested a change of gauge from the narrow to the standard, and since 1895 the Mississippi River & Bonne Terre Railroad has been operated as a standard gauge road, proving one of the best paying railroads in the State.

This company owns, in addition to this fifty miles of standard gauge road, over 30,000 acres of land, 6,000 of which has been proven mineral territory, the land upon which the beautiful city of Bonne Terre has been built, the smelter at Herculaneum, extra fine plants at Bonne Terre and Doe Run, and seven shafts and mines from which it extracted during the year 53,566,700 pounds of lead ore, valued at $918,688.90. The improvements during the year consisted of additions to the concentrating plant of three crushers and thirty-two jigs and the sinking of a shaft to the 500-foot level and the partial equipment of the same.

In evidence of the immensity of the plant and equipment of this company, the following brief description is furnished:

Mine No. 1 and Mill at Bonne Terre.

In this mine two compressed air mine locomotives built by the H. K. Porter Company of Pittsburg, Pennsylvania, are in use; the weight of each locomotive is 13,200 pounds, length, twelve feet; height above the rail four feet nine inches; width, four feet four inches; tank, eight feet nine inches long; diameter, thirty-three inches, with a capacity of fifty cubic feet; air pressure 950 pounds per square inch in compressor for above engines; two miles of track having a gauge of twenty-four inches, laid with thirty pound rails. One three-stage Norwalk air compressor, with a capacity of 200 cubic feet of air per minute compressed from air to 950 pounds. Compound steam cylinders, one being high pressure of ten-inch diameter, one a low pressure cylinder twenty inches diameter with a common strole of twenty inches. In-take air cylinder being eleven and a half inches in diameter, double acting with second and third stage single acting proportioned for final pressure of 950 pounds, two compound condensing Norwalk air compressors 2,600 cubic feet of free air

per minute each, to furnish air for running thirty-eight No. 2 Rand drills and the small mine pumps, incline hoisting engines, etc. The mill engines at this point consist of three Harris Corliss engines as follows: One compound condensing engine 20x36x48-inch stroke; one 20x48 simple and one 16x42 simple; the latter being used to drive two dynamoes, supplying from 1,200 to 1,500 incandescent lamps, six 375 horse power Heine water-tube boilers and one Lidgerwood hoist, supplied with a cable one and one-eighth inches in diameter and lifting 7,500 pounds

Mine No. 3: This mine is supplied with three eighty horse power H. P. Rohan boilers and one Lidgerwood hoister.

Mine No. 4 is equipped with two Rohan eighty horse power boilers and one Lidgerwood hoister.

Mine No. 5 has two Rohan eighty horse power boilers and one Lidgerwood hoister.

Mine No. 6 has in use two Rohan eighty horse power boilers and one Lidgerwood hoister.

Mine No. 7 has five eighty horse power Rohan boilers, one Lidgerwood hoister, five drills, three pumps, a Cameron, Worthington and Gordon with a capacity of 900 gallons per minute.

Mine No. 8 or Crawley shaft, as it is sometimes called, doubtless in honor of the persistency of the former owner of the land, Mr. Samuel Crawley. It appears that Mr. Crawley, when but a boy of sixteen years of age, left for Texas. He embraced the idea so seriously that there was mineral under the surface of the old home place that he returned with his first savings, purchased a drill and commenced prospecting. He optioned the land to the St. Joe Company, but the company not being satisified with the situation surrendered it. Mr. Crawley again returned drilled again and this time the company purchased the land and sunk a shaft to the 380-foot level without encountering any water to speak of, although the shaft was sunk to the sandrock, something very unusual in the district. The Crawley is a good producer and equipped with one Rand Drill type X. Cross compound air compressor, just installed. Four eighty horse power Rohan boilers, one Lidgerwood hoister and 8-10 Rand Drills. The mine is located in the Flat river district about three-fourths of a mile from the depot.

Mine No. 10, Known as the Gumbo.

This mine is reached by a switch three and half miles long, leaving the main line at Elvins a station on the Mississippi River & Bonne Terre R. R.

The machinery at this mine consists of five eighty horse power Rohan boilers, one Lidgerwood hoister, two Rand drill compressors with from

ten to fifteen drills. This property was owned many years ago by one of the old French families named Bogy, that became noted because of its activity in the early mining done in Southeast Missouri. Mr. Bogy erected the first and only stone house in that section at that time. Since the St. Joe Company has purchased the land it has made such repairs on the old stone house as to give it the appearance of a neat modern structure.

Mine No. 11 is on land purchased by the company for a very large sum of money, that was owned by Wliliam and Thomas Hunt, and both over eighty years of age at the time of the sale. In speaking of this mine it is frequently called the "Hunt Shaft." The machinery at this mine is composed of six eighty horse power Rohan boilers, one Stanwood-Gamble-Huston direct motive hoister; one Janesville Iron Works 1,-500-gallon pump, one Laidlaw-Dunn-Gordon pump, several small pumps and fifteen hand drills. A cable tramway conveys the ore from this place to a point on the old Summit road already referred to. The water at this mine is exceedingly strong, and in fact, so strong that sufficient pumping facilities could not be operated in the shaft, should the mine become flooded with water. To obviate such an experience, immense doors have been constructed in an entry, that will work automatically, and effectually cut off the water from one section of the mine from the other, thus furnishing the opportunity of pumping the water at leisure in case of flood.

Mine No. 12. The Hoffman, as it is called, it not yet in operation. The shaft at this point is very deep, reaching the 500-foot level, and a very large face of ore, considered to be the richest in all Southeast Missouri. Water at this mine is also strong, requiring the largest and best pumps to handle it. Transportation facilities from this point have not yet been completed. The company is now constructing a branch road six miles in length, which will not only take care of the product of this mine, but others along the route to Bonne Terre. Here, as well as at all other mines owned by this company, the hoisting towers, boiler, engine houses and other buildings are up-to-date structures, supplied with every convenience and facility for rapidly handling the product.

The smelting department at Herculaneum is replete with every modern appliance required for smelting the great amount of ore mined by this company.

This great company continues under the same excellent management which has characterized it as the best found anywhere in the State.

Mr. C. B. Parsons, superintendent and Mr. August Setz, assistant.

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TABLE SHOWING THE PRODUCT OF THE ST. JOSEPH LEAD COMPANY FROM 1869 TO 1902, INCLUSIVE.

Year.	Pounds of lead.	Year.	Pounds of lead.
1869	523,000	1886	14,744,000
1870	646,000	1887	14,774,000
1871	1,718,000	1888	26,064,000
1872	2,120,000	1889	27,200,000
1873	2,160,000	1890	27,702,000
1874	2,590,000	1891	28,234,000
1875	3,920,000	1892	26,948,000
1876	4,872,000	1893	28,842,000
1877	4,102,000	1894	36,178,000
1878	5,638,000	1895	40,623,000
1879	7,130,000	1896	48,817,000
1880	8,508,000	1897	46,174,000
1881	10,634,000	1898	40,685,000
1882	14,788,000	1899	40,049,150
1883	11,904,000	1900	36,348,000
1884	13,608,000	1901	46,634,000
1885	19,538,000	1902	53,566,700
			623,366,850

CENTRAL LEAD COMPANY.

This company has its main office at 420 Roe Building, St. Louis, and its local office at Flat River, St. Francois county, Missouri. The company owns 1,604 acres of land located in the very heart of the great Flat River basin, where for over half century mining has been carried on. In 1876 the first diamond drill was used in exploiting the land for a deeper run of ore. At a depth of 240 feet some ore was encountered and an effort made to enlist for its development capital without success. In 1890 a company was formed and it proceeded with the sinking of a shaft. In 1892 the shaft reached the 240-foot level, but as diamond drilling continued with the work, it demonstrated the existence of a larger and much richer body of ore from the 360 to the 380-foot level. The shaft was continued on down, reaching 380 feet in depth during the summer of 1893. During the month of October of the same year, the erection of a hoisting plant and concentrating works were commenced, and the entire plant placed in working order in the spring of 1895. The plant was, when finished, pronounced a model and recommended as wortthy of imitation. Even at this day of great advancement it is easy to see that Mr. Thatcher and his assistant, Mr. Johnson, were most competent and energetic men.

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There are three mines on the tract with shafts of an average depth of 365 feet. The output of the mines during the year was 21,105,062 pounds of lead ore, valued at $422,101.24, with 125 men in the ground. In extracting the ore drills are used that are driven by compressed air.

The concentrating plant is equipped with a Corliss engine, E. P. Alice make, which is 16x36 and 200 horse power; one Buckeye engine, 11x22, one of which is employed in running the electric plant; two tubular boilers 20x60 of 100 horse power, having one hundred and twelve three and a half-inch flues; one dynamo, which furnishes 500 lights for plant and mines. The mill is supplied with an extra large Chat tank, 34x36 feet, which avoids the frequent call for the locomotive. A very large pump constructed by the company in its own shops, and for this reason called the "Central Pump," is located on the side of the hill and supplies a stream of clear water to the top of the mill (65 feet) at the rate of 1,800 galons per minute. This water then runs to the tables and jigs as desired.

To provide against delays and break-downs an extra pump, a Worthington 14x10x10, with a capacity of 900 gallons per minute is in place, and at all times ready in event of an emergency. Condensors for the saving of water and heat are supplied by the company. The ore is conveyed to the mill from the mines by both horse and steam power, eighty seven cars being furnished for the purpose.

Shaft No. 1 is 6x10 feet in the clear, 370 feet in depth, with one cage way and a counter balance weight, supplied with safety catches invented by former superintendent R. D. Johnson and A. J. Parker, which have proven an entirely safe appliance. At the bottom of the shaft they have what are called pump houses; but in fact they are simply large and deep excavations into which a large section of the mine may be drained, and in a large sense taking the place of a sump. Three large Worthington pumps are located in the shaft bottom, capable of handling 2,200 gallons of water per minute, while the amount of water made by the mine will not average over 500 gallons per minute. This looks like over precaution at first thought, but we know that big water strikes are made in that section, and it is well to have an abundance of pumping facilities. The excavated place in the mine has reached a great distance and it requires from ten to twelve mules to convey the ore from the face to the shaft bottom. The stable is underground and the mules appear to be well taken care of, as they are slick, fat and otherwise in apparent good order. The further equipment at this shaft comprises a Litchfield hoister, which has hoisted 240 cars, averaging 1,200 pounds in ten hours, the drum has a diameter of five feet; two Norwalk air compressors, 20x24, of 110 horse power each, capable of running fifteen drills. The drills used are made

by the Central Lead Company. Also one Norwalk air compressor 14x 16, held in reserve in case of accident or break-down, seven tubular boilers, 48-inch diameter, twenty feet long, three crushers also of home make. An air receiver carrying a pressure of 100 pounds is placed at both the top and bottom of the shaft. A changing room is also supplied for the use of the miners.

Roger's Shaft is 6x18 feet in the clear, 360 feet deep, supplied with double cage and pipe and ladder-ways. This shaft is connected with No. 1, which affords not only perfect ventilation, but an avenue of escape should anything serious occur in the other shaft. The machinery here embraces a Litchfield hoisting engine, double cylinder, 14x24, and a double drum fifty-four inches in diameter; one Norwalk air compressor, 20x24; one Brownell engine, 12x18; four sixty horse power boilers; three Worthington pumps, one with a capacity of 1,200 gallons per minute; the two smaller pumps with a combined capacity of 1,600 gallons are held in reserve.

Theodore Shaft is located not quite two miles distant from the Central mill. This land was purchased of King Williams, the father of the inspector of mines. This shaft is 6x14 feet in the clear, 330 feet deep, supplied with cages similar to the Rogers. The equipment in the way of machinery consists of a Norwalk air compressor, one Litchfield engine, 14x24, with double drum fifty-four inches in diameter; three boilers, two underground pumps, a Worthington and a Hooker, capable of handling 500 gallons of water, but with comparatively little water to hendle, as the mine is remarkably dry. The water necessary for the plant is transported in a 5,000-gallon tank over the standard guage road connecting the mine and the mill. This road and two locomotives belong to the company. The mines of the company are supplied with machine shops, having all the necessary tools and appliances required for reqairs and the construction of much of its machinery.

Mr. Arthur Thacher of St. Louis is the president and general manager of the company. Mr. T. J. Monell, superintendent, and Mr. B. A. Hoskins, assistant superintendent.

COLUMBIA LEAD COMPANY.

The principal office of this company is at St. Louis, room 903 Security Building. The local office is at Ester, St. Francois county. It owns 944 acres of land near Flat River, and joins up with the land of the Central Lead Company. Two mines were operated during the year, with an output of 10,000,000 pounds of lead concentrates, which sold for $175,000.

Due to improvements added and several disagreements with its employes, the company did not have a steady year's work, but operated under

difficulties. When in full operation about 157 ground men and 92 top men are employed. This property was not operated until 1900.

The shafts are 305 and 506 feet deep, respectively. Shafts are 6x18 feet in the clear, three compartments, two of which are cage-ways, the other ladder and pipe-way. At shaft No. 1 the equipment embraces a 250-ton mill, four steam boilers, with a total capacity of 285 horse power, twenty-six steam jigs, six Wilfley tables, steam hoister, single action direct; three Blake crushers, 10x6, three sets 36-inch rolls, one Worthington pump, lifting on an average 100 gallons per minute; one Norwalk air compressor, with full complement of drills; one standard guage railroad, two and half miles in length, connecting the mines with the main line of the Mississippi River & Bonne Terre Railroad; two locomotives, machine shop, boiler, engine and hoisting houses, substantially built and supplied with every appliance needed.

Shaft No. 2 is equipped like No. 1 for hoisting, with buildings similar, three steam boilers, two air compressors, fourteen drills, one Lidgerwood hoister, three underground pumps, Worthington, Deane and a Laidlaw. A standard guage railroad, about one mile in length, connects the mine and mill.

Since the foregoing was written the Columbia Lead Company has leased its land and plant for a period of ten years, to date from June 15, 1903, to the Commercial Lead Company.

The principal stockholders of the Commercial Lead Company are H. J. Cantwell, S. W. Fordyce and Edwin Harrison of St. Louis, Missouri. Mr. H. J. Cantwell is president; E. H. Platt, superintendent and J. W. Boyd, secretary.

The Commercial Lead Company is required to operate the plant to its fullest capacity and to sink another shaft on the tract just east of the St. Louis Smelting & Refining Company's mill this current year.

ST. LOUIS SMELTING AND REFINING COMPANY.

The principal office of this company is in St. Louis, Missouri, corner of 10th street and Clark avenue; its local office is at St. Francois, a station on the Mississippi River & Bonne Terre Railroad, in St. Francois county. The 1,200 acres of land owned by the company is located between the two large mining towns of Deslodge and Flat River. The old "Taylor Mine," extensively worked some years ago, is on the property, the same changing hands in 1897. In 1898 the company decided upon a thorough test of the land, and if this proved successful, the construction of an extensive plantt. Mr. R. D. O. Johnson, the then superintendent of the Central Lead Company, having proven so successful as a practical and scientific mine manager, was placed in charge of the drilling of the land and construction of its plant. The old Taylor shaft

was found so small, unfortunately located and contending with so much water, that it was abandoned and shaft No. 2 commenced in August, 1898. This shaft was completed to a depth of 407 feet in eight months in spite of a flow of water averaging 450 gallons per minute. The shaft is 6x18 feet in the clear with three compartments, accommodating two cage-ways, and a pipe and ladder-way.

Shaft No. 3 was sunk to the 395-foot level, encountering but a small amount of water in its sinking. This shaft is located 2,400 feet north northeast from shaft No. 1, and was completed one year after the latter was sunk.

The plant was completed July, 1901, and eclipsed all other plants of this kind in the State, due to its size, the character of its construction and its splendid equipment.

Electrical distribution of power was determined upon by Mr. Johnson, from one central power plant located at the mill. This was supplied by two batteries of 60 horse power each, fitted with large tanks for treating, chemically, the feed water. The engine was of 850 horse power, belted direct to the main shaft of the mill, and driving by direct connection one 250 K. W general electric generator. In addition to the main engine, there is one 350 horse power auxiliary engine connected directly to one 250 K. W general electric generator and two large air compressors. The mill is patterned after the copper mills of Michigan. It is divided into four sections and each driven independently through a clutch pulley from main shaft, with a capacity of 1,200 tons. There are 176 jigs under the same roof; they are of special design, two compartment.

The ore is hoisted by electric hoisters; a trolley line is run between the several shafts, the mill and the M. R. & B. T. R. R.

For a more detailed account of this equipment our report for 1901 can be referred to. The plant and equipment is extraordinary, and it has not an equal in this or any other state. The output from the mines during the year was 29,128,000 pounds of lead concentrates, valued at $664,123.03.

Considerable additions and improvements have been made during the year, the most important of which was the sinking of No. 4 shaft. This shaft is 8x20 feet in the clear, three compartments, two cage and ladder-ways. The shaft is 338 feet in depth, with four working levels in it of good disseminated lead ore. The pumps and steam hoister will be run by electricity supplied from the Central plant located at the mill some 3,000 feet distant. A standard guage road has been built some 5,000 feet long, supplied with a locomotive and an electric motor, the locomotive to be used in the event of a break down. This shaft, 338 feet

in depth, was sunk in five months. Not many years ago such progress was not dreamed of. The old Taylor shaft has also been enlarged during the year, its original dimensions of 6x8 has been changed to an 8x20-foot shaft. The intention is to make of this a hoisting plant, as the mill, with its capacity of 1,600 tons, has never been run to its capacity. With the completion of this shaft and its equipment, the company will have four hoisting shafts. Compressed air will be furnished this shaft through a six-inch pipe leading to the air receiver at the mill. The capacity of this plant is sufficient to run sixty air drills. The changes in the mill consist of the substitution of forty-eight Overstrom tables instead of the twelve doube deck tables heretofore in use. This change has already been pronounced a success. The mill is furnished with heat during the winter by the hot-blast system, the hot air being conveyed to the mill through a large pipe which feeds a number of smaller ones which reach to every part of the same. The pumping station for supplying water to the mill is located on Flat river. The mill demanding so much water, a pumping station had to be provided. It was located about half a mile away on Flat river, and a pump with a capacity of forcing a stream through an eight-inch pipe, equal to 1,000 gallons per minute, was installed. To avoid a water famine a large reservoir was constructed some time ago; but during the year the appearance of an unusual amount of water from an unexpected quarter, was after investigation, found to be coming from the reservoir through a channel feeder that had been tapped in the excavations underground. The mine was nearly flooded as a result and the work underground abandoned until the water was drained from the reservoir and the channels closed by driving piles and filling in with concrete. This stoppage of work very seriousy interfered with the production from these mines during the year.

No. 4 shaft, or the last one sunk, shows a fine grade of ore.

This company, like all other companies in the county, did comparatively little prospecting in 1902. There being no smelter at these mines the ore or concentrates, as they are commonly called, is shipped to the National Lead Company at St. Louis and the Federal Lead Company at Alton, Illinois.

FEDERAL LEAD COMPANY.

This company owns 500 acres of land in the Flat River district, with an investment of $500,000 in land and equipment. The principal office of the company is at 705 Olive street, St. Louis, Missouri, its local office at Flat River, St. Francois county. One shaft was operated during the year, through which there was hoisted from its mines 8,638,365 pounds of lead concentrates, valued at $161,827.20.

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During the last two years we have persistently endeavored to secure a description of the mill and equipment on this property. Over one year ago it was claimed that many new departures had been made from the old methods, with the request that all mention of the same be deferred until the actual demonistration of the practical workings of the new methods could be made. We met practically the same disposition to withhold the information this year, still we have hope, provided, the machinery embraced in these new departures does not wear out in the effort to develop the feasibility of the departure, that some sweet day we may have the pleasure of describing this wonderful mill for the benefit of other mill owners.

During the year shaft No. 2 has been sunk to the 418-foot level. It is 10x20 feet in the clear, and was carried to the depth mentioned in six month's time. The absence of water in the sinking was, of course, a great help. The ore here was fine and the product for the current year from this company is expected to be greatly increased. This shaft is located 1,000 feet east of Flat River and 1,900 feet west of the mill and shaft No. 1. The hoisting tower at this shaft, unlike that at No. 1, is constructed of wood, but it is claimed that a steel tower will take its place in a short time. The machinery here consists of a Lidgerwood hoister, a Rand air compressor, two steam boilers, Janesville pump and other minor appliances.

When the railroad switch is completed the ore will be transported to the mill in large cars.

The pumping station is located at Flat River, at a point where the St. Joseph, Doe Run and Federal Lead Company's land join. Here the company secures the clear water pumped from the Doe Run No. 4 shaft, and in turn is pumped to the mill of the Federal Lead Company, and into a stand pipe 100 feet high, eighteen feet in diameter and holding 380,000 gallons. It is estimated that the elevation of the stand pipe above the point from where the water is pumped is at least 200 feet. The pump used is a very large Janesville. Two Wicks vertical water tube boilers supply the pump with steam, but more than likely one is held in reserve. These boilers have only lately been introduced into this territory.

This company has a fine plant as far as can be observed. The hoisting towner at shaft No. 1 is an extra fine steel structure. The machiinery is not only of great capacity but first class.

The buildings are well and substantially built, and in fact, every appliance appears to have been employed that would add to the completeness of the plant.

The equipment consists of the following: One compound Corliss condensing engine, made by the Fulton Iron Works, St. Louis, Missouri,

size 16x32x48; one Norwalk air compressor, 18x28x30; one automatic engine, Payne Engine Company, New York, 13x12, direct connected with Bullock Electric Generator; one automatic engine, Payne Engine Company, Elmira, New York, direct connected to Bullock Electric Company's generator; one Wheeler condenser, marine type; one condensing pump, 5 3-4x11x10, compound condensing; four vertical water tubular boilers, 200 horse power each; three feed water pumps, 6x4x6; four automatic stokers.

Shaft No. 1: One geared hoisting engine drum, four feet face, eight feet diameter; twin engine, 18x24; one single Corliss engine, 16x32, condensing; one Gyratory crusher, capacity 450 tons; four Gyratory crushers, capacity sixty tons each.

Pump house: One compound duplex pump, 10x22x12x24; two boiler pumps, 4 1-2x2 1-2x5; two vertical water tube boilers, 150 horse power.

Shaft No. 2: One pump in boiler room, duplex, 6x3x6.

Engine room: One double drum hoisting engine, diameter of cylinders 14 inches, length of stroke 17 inches; one Rand Drill Company's compressor, 16x23.

DESLOGE CONSOLIDATED LEAD COMPANY.

The property owned by this company, consisting of 4,000 acres, has long been known as mining territory. It parallels the Mississippi River & Bonne Terre Railroad, and is located between Bonne Terre and Deslodge. The ore body consists of galena disseminated through the magnesian limestone and is similar to that of the St. Joseph Lead Company property which it adjoins.

For many years surface mining was carried on with varying success. The ore was first discovered and mined here in 1801, by two Americans, Baker and Ally. The mine was first called "Mine a Joe," and covered the present site of the concentrating works. In 1802 the authorities took the land from Baker and Ally, after which for many years little or nothing was done in the way of mining. In 1820 the "Intruders," as the miners were called, who worked without a lease, mined on the property about a year, after which it was the impression that the shallow ore was exhausted. Years after this the Boggy Lead & Mining Company prospected the land with a diamond drill with no very important results. No systematic work was done until the present company took possession.

The company is capitalized for $1,000,000, and has been doing a large business for years past. It has a most excellent plant, equipped with first-class machinery. The concentrating works is supplied with every approved device, which tends to economy in the handling of the ore, and

its capacity is such that it can easily handle the material mined from present openings and also from the new shaft just completed and equipped The company at present has in use four large boilers, eight pumps, two air compressors, four steam hoisters, seven crushers and fifty-six steam jigs.

The concentrating plant has a present capacity of 600 tons per day, but it is to be increased to 800 tons. In the boiler house there are three boilers, each having a capacity of 250 horse power. These boilers have one hundred and 43½-inch flues each and are sixteen feet in length, two Dean duplex boiler feed pumps, one 500 horse power Cochran heater.

In the engine house there are one Allis, Corliss compound condensing engine 18x32x42 of 350 horse power, one cross compound Allis air-compressor, high pressure, 22x20x48; low pressure, 36x38x48; capacity, 3,300 cubic feet per minute, capable of running thirty-three No. 2 Rand drills; one Norwalk air compressor, 18x28x30 with a capacity of 1,500 cubic feet per minute; one Dean condenser, 12x16x18; one Worthington duplex pump, 18½x10x14; one Hocker pump, 9x10x6 as a boiler feed; one 500 alternating current dynamo for general lighting purposes.

The mill is equipped with twenty-seven Klein double-acting ore jigs; eight Klein combination classifiers; seven Klein pneumatic tables, to be increased to eighteen shortly; three pair each of Milwaukee and Chicago rolls; three Blake crushers; two Chillian and one Bryant mill for regrinding.

Pumping station is equipped with one 100 horse power Corliss engine Allis make, 14x36, geared to a Blake pump, 14x18, with a capacity of 1,200 gallons per minute, discharging into reservoir; from here the water is pumped through a sixteen-inch cast pipe to the mill.

The machine shop is supplied with the most modern make of swing lathes, planers, bolt machines, etc.

No. 2 shaft has an equipment consisting of wooden tower, two Blake crushers and an engine for crushing of sixty horse power, one Litchfield direct hoister and one boiler.

Shaft No. 3 is supplied with two O'Brien horizontal boilers, 125 horse power each, and one boiler 75 horse power; one hoisting engine, direct motion; one Buckeye crusher engine, 100 horse power; one Cornish pumping engine, seventy-five horse power; one Brannan and one Blake crusher, with a capacity of 500 tons in eight hours.

No. 4 shaft is supplied with new machinery, the shaft having been completed but a short time. This shaft is distant three-fourths of a mile from the mill, but connected with it by a railroad of standard gauge. Owl Creek has to be crossed in this distance and, as we passed over

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it on a locomotive, would estimate its height at seventy-five feet. This shaft is 7x20 feet, 320 feet deep, three compartments—two cage and one pipe ways. The shaft was sunk in four months, but of course there was no hammer drilling; all drilling was done with air drills. While this shaft is near Big river, strange to state, there was little water encountered. The equipment embraces tower house, double drum, Litchfield hoister, two boilers and a crusher. During the year two miles of track was built, making a total of seven miles of standard gauge railroad owned by the company.

The two mines operated during the year had a product of 19,900,000 pounds of lead concentrates, valued at $417,900.00.

Since 1894 this company has produced as follows:

Year.	Pounds of lead ore.
1894	4,500,000
1895	8,400,000
1896	9,200,000
1897	10,400,000
1898	18,654,000
1899	20,083,000
1900	14,994,000
1901	21,076,000
1902	19,900,000
Total	127,312,000

Mr. F. Desloge is treasurer of the company, with postoffice address Desloge, St. Francois county, Missouri.

The entire town of Desloge is built on land owned by the company, and is leased to individuals.

DERBY LEAD COMPANY.

This company has a capital of $400,000 invested in land and plants. It owns 6,000 acres of land, part of which adjoins some of the fine mining properties in the Flat River district. The company has sunk two very deep shafts: No. 1, 508 feet, and No. 2 has a depth of 527 feet. These shafts are 10x20 feet in the clear, with three compartments, two of which are cage-ways and the other for pipes and ladder. The sinking of the shafts, owing to the extraordinary flow of water met with, has been a tedious and expensive undertaking. Shaft No. 1 has three pumps stationed in it, as has also No. 2. The latter is temporarily abandoned, the water in it getting the best of the situation, and the only hope of draining it is by a proposed drift under the shaft. Shaft No. 1 is supplied with the following machinery: Four large boilers, two air compressors, one an Ingersoll and the other a Norwalk, one Lidgerwood hoister and five pumps, two of which are located at the 300-foot level and five at the bottom, one a ten-inch and two five-inch discharge

No. 2 shaft. This shaft is of the same dimensions as No. 1: Three compartments and supplied with every possible safety appliance, Lidgerwood hoisters and two boilers. The supply of compressed air is furnished from the equipment at the other shaft through six-inch pipe 1,600 feet long, being the distance between the two shafts. There are three pumping stations in this shaft, and three pumps now under water where they will remain until No. 2 is drained. These shafts are located three quarters of a mile south of Elvins, a station on the Mississippi River & Bonne Terre Railroad.

The product of this company for the year was 1,068,000 pounds of lead ore valued at $22,970.

Equipment Underground.

One Henry R. Worthington pump, duplex, 19x34x14x24; one Henry R. Worthington pump, 10x6x7½x2, duplex; one 16x8½x10 Worthington pump; one 16x18½x10 Worthington pump; one 12x7x10.

Engine Room Top.

One twin duplex drum geared hoist, 14x17.

Compressors.—One Norwalk Iron Works, South Norwalk, Connecticut, 12x20x20x26; one Ingersoll, Sergeant Drill Company, New York, 20x24.

One generator, Edison arc light; one vertical engine, 6x12, for lighting purposes.

Boilers.—Three 72x16 return tubular boilers; one 6x18 return tubular boilers; two boiler pumps; Worthington, 7½x5x6; one Cochran heater.

Mr. T. M. Scofield is the general manager of the company.

The principal office of the company is at 705 Olive Street, St. Louis, and its local office at Elvins, Missouri.

DOE RUN LEAD COMPANY.

This is the second largest producing company in the county. This company owns 4,000 acres of land, and is capitalized for $1,500,000. It operated three mines during the year; with an output of 34,060,000 pounds of lead ore, valued at $810,350.00. There are three shafts on the property and all being worked; they have depths of 40, 400 and 425 feet, respectively. These shafts are all located near Flat river on the Mississippi River & Bonne Terre Railroad, with switches leading to each shaft. Doe Run, from which the company gets its name, is a mining camp containing about 1,200 inhabitants, and located at the terminous of Mississippi River & Bonne Terre Railroad. At this point the company has its extensive

reduction works. At one time the company operated a refinery, but since the completion of the railroad to this point, the roasted ore has been shipped to Herculaneum, at which point the extensive smelting works of the St. Joseph Lead Company is located. The company is largely composed of gentlemen who are interested in the St. Joseph Lead Company. The company was organized nineteen years ago with a capital stock of $250,000. It optioned at that time a portion of its present land holdings from Mr. Wm. R. Taylor, who had done some mining at Doe Run, having a shaft down forty feet, in which he struck some rich disseminated lead ore. After the Doe Run Company had drilled here for six or eight months with the diamond drill, it purchased the property, paying $60,000 for it. A shaft was sunk, a very extensive mill erected, together with a number of calcine furnaces and a refinery. The milling, roasting and smelting of ores was carried on here until the railroad reached the place. In the meantime the company optioned a large body of land in the very heart of the Flat River district, exploiting the same by the liberal use of the diamond drill. The first property drilled in this district by the company was on the property owned by King Williams. It then moved to what has long been known as the Crawley tract; thence to the Walton tract, on which, after about a year of prospecting, it decided to sink a shaft to the 400-foot level. Prior to that time the company had placed a limit of 300 feet to its depth of drilling and not finding all that was hoped for, deeper drilling was determined upon. The very first deep hole struck the lead. No other company had ever before reached the sand rock. The shaft was started, but on reaching the ninety-foot level a water channel was encountered that passed through the shaft diagonally from one corner to the other. After experimenting with all kinds of pumps and the expenditure of a large sum of money this attempt was abandoned and another shaft started about 1,000 feet distant. At the expiration of nine long months of toil and worry, this shaft reached a very rich body of disseminated ore. After the lapse of another year, No. 2 shaft was started at a point nearly a mile up the river from other shafts. Before this last shaft was completed, another channel of water was struck in a drift at Mine No. 1, which completely drowned out the mine in less than ten hours in spite of the most strenuous efforts to beat it. Work at No. 2 was hastened, and at 400 feet the rich body of ore referred to was demonstrated. This proved a good mine and continues to the present a fine producer, but an immense amount of water has at all times been present to contend with. Following this another year found it sinking shaft No. 3. This also proved troublesome on account of water at the depth of 150 feet, but as a drift had been driven under this shaft, a drill hole was sunk in the bottom of this shaft and tapped the

drift, into which the water from the shaft was allowed to drain. The pumping capacity at No. 2 being sufficient to handle the extra water coming into the drift, the sinking of No. 3 was carried on expeditiously, as the shaft was practically free from water.

To avoid anything like clogging or choking in the drill hole that was draining the shaft, a large wire cable was passed down the drill hole to the drift and this cable was kept constantly in motion to prevent stoppage by falling pieces of rock that frequently fell into the drill hole.

Following this, shaft No. 4 was started. This was another deep shaft and located some 400 feet from No. 1. It reached a depth of 400 feet and development of the mine commenced, in fact a few car-loads of very fine ore had been shipped to Doe Run, when to the surprise of all acquainted with the situation, another water channel was struck. This was a surprise, as stated, as the drilling did not develop serious water; but somehow the drill holes in the drift, when shots were exploded in them, found less resistance in the direction of the water channel than elsewhere, and the water poured in so rapidly that, notwithstanding the pumps were capable of pumping 1,500 gallons per minute, the mine was drowned out in short order. This company, not to be baffled, sunk another shaft, No. 5, only ninty feet away with the intention of making it a pump shaft proper. It was carried down 6x14 feet 400 feet deep in hard rock, with water to contend with, in four months time. One month 116 feet were made, and taken altogether, it is about the best time ever made in the district. After this shaft was down a drift was driven toward No. 4 for a distance of sixty feet. This still left thirty feet between the two points. The company then cut out a large pump house in the bottom of the shaft and installed two very large pumps, capable of throwing over 3,600 gallons per minute. When this was done two small diamond drills were employed to drill through the intervening space for the purpose of draining the flooded mine. The very first drill hole struck the bottom of the pump house in the shaft bottom of No. 4. So strong was this water pressure that, when the drill rods were loosened from the drill, they were forced back from the face of the drift a distance of sixty feet to the shaft. After that six two-inch holes and six three and three-quarter-inch holes were drilled into the flooded mine and the water was thus drained off. The diamond drill bits were prepared for this purpose, and the ordinary prospecting drill used on the surface was made to do this service below. Since then a very large area has been cut out of this very rich body of ore.

Shaft No. 2 is equipped with wooden head-frame forty-five feet high; one single drum hoister, Stanwood & Gamble, direct motion; engines with cylinders 16x22 inches; drum, 60x58 inches, grooved for one-inch

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rope. The shaft is 6x16 feet, double compartment, with cage and pipe ways 425 feet in depth; ten eighty horse power boilers; one duplex, crank and fly-wheel Corliss condensing air compressor 20x20x36 inches, 1,700 cubic feet of air per minute; weight of fly-wheel, 17,000 pounds; one pump, 13-20x10x24 inches; two pumps 18-31x12½x24 inches; one pump, 16-30x12x24 inches. Cages supplied with safety catches.

No. 3 shaft is equipped with steel head-frame forty-five feet high; one double drum hoister, Stanwood & Gamble, direct motion. Hoisting engine cylinders, 15x22 inches, four feet diameter with four-foot face, grooved for one-inch rope; ropes one inch crucible steel. Shaft, 6x18 feet, 412 feet deep, double compartment cage and pipe ways; cages suppiled with Bilhartz safety catches and landing chairs, 4x9 feet and four eighty horse power Rohan boilers.

No. 4 shaft, 6x18 feet, 400 feet deep, two compartment for cages and one for pipe way; head-frame constructed of steel, seventy feet high; single drum 60x58 inches, grooved for one-inch rope; hoisting engine direct motion, 15x22 inches; two Hage air compressors, crank and fly-wheel, Corliss condensing air compressor, air cylinders 24x16x36 inches at sixty revolutions per minute, 1,500 cubic feet of air per minute: one heater and purifier, capacity, 850 horse power; eight eighty horse power tubular boilers; two Bilhartz safety cages nine feet high four feet wide, cage landing chairs; one Laidlaw-Dunn-Gordon duplex outside packed compound condensing pump, 18½, 31x13x24 inches, capacity, 1,500 gallons per minute at 100 feet piston travel.

No. 5 shaft, pump shaft 16x14 feet, 400 feet deep, sunk in four months. Pump room supplied with two Laidlaw-Dunn-Gordon duplex outside packed compound condensing pumps 20-31x14½x24 inches, capacity for each, 1,800 gallons per minute, condensers, 8x12x18; one Lidgerwood hoister, seventy-five horse power; drum, 59x48 inches. cylinder twelve and one-quarter by fifteen-inch stroke.

Water at No. 2, 1,200 to 1,400 gallons per minute; water at No. 4, 1,400 gallons per minute; pump capacity at No. 2, 5,500 gallons per minute; pump capacity at No. 4, 5,100 gallons per minute.

Mr. T. P. Graves, superintendent and secretary, has long been associated with the company and to his great ability and untiring efforts is due much of the credit for the splendid showing and condition of the mines of the Doe Run Company.

THE FOSTER LAND.

Mr. Geo. J. Cole has an option on some 500 acres of land in this county owned by Mrs. Jennie Foster and adjoining the Valle mines property. He has sunk a shaft 6½x12 feet, 170 feet deep and done some

drifting in different directions, which will aggregate 200 feet. His equipment consists of a fifty-four horse power gasoline hoisting engine, an air compressor and one No. 2 Rand drill. It is claimed that 35,000 to 40,000 pounds of lead has been mined, but very little zinc, although his shaft is only 600 feet from one of the Valle mines shafts. At the time we visited the mine it was not in operation. It is the intention of Mr. Cole to prospect to a greater depth in his shaft with a diamond drill as soon as he gets out of the flint which has followed well down the entire distance. In this section of the State there are three sets of caves that are encountered in mining and in these caves more or less mineral is found. The first set of caves are reached at about the ninty-foot level, the second set at about 130 feet, and the third set between 170 and 180 feet.

MADISON COUNTY.

This county is as old in its mineral production as any county in the State. Aside from one mining property within its limits, it has been exceedingly backwrad in the promotion of its mining industry. At the present time it has a much brighter future, with every indication that its vast mineral resources will be brought into greater prominence during the current year than it has experienced in any decade during its history. The ores encountered in this county embrace silver, nickel, cobalt, copper, lead and iron, with marble quarries superior to any in the State. Its as yet undeveloped territory, in which the presence of mineral has long been known, is quite extensive and with the present activity displayed in all kinds of mineral research, cannot much longer lay dormant. That it will soon prove a great factor in our mineral production is demonstrated on all sides by the development work going on.

Since the Mine La Motte property has changed into hands that are putting forth so much of effort in the way of advancement and development, together with the impetus added to the same kind of work by the Catherine Lead Company, the North American Lead Company and the Jackson Revelle Mining Company, a most decided improvement will result to its mining industry. That this is true one has but to read the record given of the respective companies and what they are now accomplishing to be convinced.

MINE LA MOTTE LEAD AND SMELTING COMPANY.

This celebrated tract of land, embracing nearly 38,000 acres of land and known for nearly 200 years as Mine La Motte, was purchased and taken possession of by the present company July, 1902. Its history

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Concentration Practice in Southeast Missouri

A. P. WATT,* S. B., ST. FRANCOIS, MO.

(St. Louis Meeting, October, 1917)

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* Metallurgist, St. Louis Smelting & Refining Co.

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FOREWORD

THE problem of concentrating the disseminated lead ore of southeast Missouri is extremely simple. The economic mineral is galena and the gangue is dolomite. The ore assays from 4 to 6 per cent. lead, 80 per cent. of which is recovered in a 70 per cent. concentrate. The ore is crushed through 10 mm. and sized on 2 mm.; the oversize is jigged, while the undersize is tabled, and the slime treated by flotation. The district is the largest lead producer in the world, the output of metallic lead for the year 1915 being 183,906 tons. Over 20,000 tons of ore a day is being treated.

The management of the different properties is progressive and always open to suggestion. The fact, however, must not be lost sight of, that the problem in the district is peculiar, as the average ore contains but 80 to 120 lb. of a metal normally selling at about 4c. per lb. The low price of the metal limits the treatment system to one of low cost. An elaborate treatment is neither logical nor advisable. An engineer first visiting the district may consider that the method of treatment could be improved

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and, in some cases, such may be the case. On the other hand, the method of treatment followed is largely one of evolution and, consequently, probably not far from correct. However, the ultimate method of treatment of the ore is a problem that has not yet been solved. The methods of concentration used at the different properties are practically identical, differing not in principle, but only in detail. This is to be expected, because of the similarity of the ore in the different properties.

Location of District

The disseminated lead district of southeast Missouri—locally known as the "Lead Belt"—is 70 miles south of St. Louis. It is reached by the

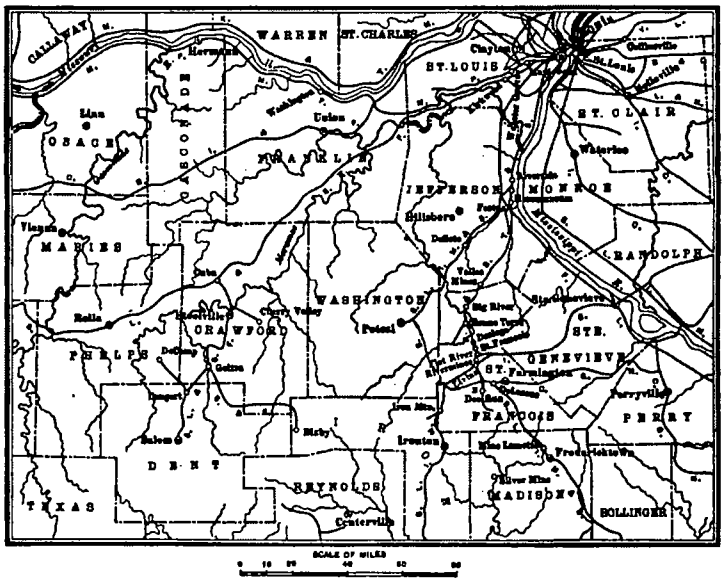

Fig. 1.—General map showing location of the southeast Missouri lead district in relation to St. Louis and other cities.

Mississippi River and Bonne Terre R. R., which runs over the rails of the St. Louis, Iron Mountain & Southern R. R. from St. Louis to Riverside. From Riverside to Doe Run, which is the end of the line, the Bonne Terre road operates over its own tracks. This railroad, which is owned by the St. Joseph Lead Co., attends to both the freight and passenger business of the district. The Illinois Southern passes through the district at Flat

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River and Elvins, terminating at Bismarck on the Iron Mountain R. R. This road gives access to the Mississippi River to the east at Ste. Genevieve, and thus permits tapping the coal fields of Illinois. The Lead Belt is wholly within St. Francois County, the principal towns being Bonne Terre, Flat River, Elvins, Desloge and Leadwood. These towns are all within the Lead Belt, while Farmington, the county seat, is 9 miles to the southeast. The location of the district in relation to St. Louis and other cities is shown in Fig. 1.

Geology and Mining

There is no vein formation in the district, the ore occurring in large bodies, roughly horizontal. The ore is not shattered nor brecciated, but as a general thing very compact, and large orebodies gradually fade out into nonprofitable dolomite.

The ore occurs at a depth of 300 to 400 ft. and varies from 30 to 100 ft. in thickness. It is mined by underground methods, no open-cut work being done in the district around Flat River, but such a method is in use at Mine La Motte. H. A. Guess[1] has fully described the mining methods in use in the district, and as the geology will be made the subject of a separate paper, this subject will not be further discussed.

Topography and Climate of the District

The country is rolling, the average elevation being about 800 or 900 ft. The topography is not sufficiently steep to permit the operation of a gravity-type mill. The winters are mild, snow seldom remaining on the ground for more than 3 or 4 days at a time, the temperature seldom falling below zero. The summers are hot, as one would suspect who is familiar with St. Louis in the summer time, the temperature during the days frequently standing around 100°. The average rain fall is 40 in. per year.

Lead Production of the District

Tabulated statistics are usually not interesting reading, but in order to appreciate the size and importance of this district, it is logical to compare the production of southeast Missouri with certain other lead-producing districts. The following figures are taken from *Mineral Industry*, 1915, and show the production of lead by different nations for the year 1913—the latest complete figures available:

[1] *Trans.* (1914), 48, 33.

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THE WORLD'S LEAD PRODUCTION

	Tons
Australia	116,000
Austria	22,312
Belgium	35,750
Canada	17,089
France	28,000
Germany*	181,100
Greece	18,309
Hungary	1,790
Italy	21,674
Japan	3,600
Mexico	55,530
Russia	1,000
Spain	203,000
Sweden	1,235
United Kingdom (domestic ore 1912)	17,706
United States	396,034
Southeast Missouri**	147,558

* This figure includes 83,781 tons imported.
** Private communication from C. E. Siebenthal.

Note that the production of southeast Missouri is eclipsed by one foreign country—Spain—and that southeast Missouri alone produced more than Australia.

For further comparison, consider the large lead-producing districts of the United States. These figures are for 1915, and are refinery statistics taken from *Mineral Industry*, 1915.

Southeast Missouri, as usual, was in the lead with a production of 183,906 tons[2]. Idaho was next with 160,680 tons, followed by Utah with 106,105 tons and Colorado with a production of 32,352 tons. Southeast Missouri alone produced more lead than the State of Idaho.

Southeast Missouri—by which term is generally meant the Flat River district—is one little known to the average engineer. This is due to the fact that there are only large companies operating in the district and that they have no reason for advertising themselves. Consequently, few engineers visit the Flat River district. When mention is made of lead mines in Missouri, the average person thinks of Joplin, because southeast Missouri, to many people, appears to be an unknown quantity. Joplin is situated on the other side of the State and the lead production of Joplin does not compare with that of the Lead Belt, as Table 1 clearly shows:

[2] Private communication from C. E. Siebenthal.

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TABLE 1.—*Lead Production of Flat River and Joplin Districts*

Year	Flat River District, Tons	Joplin District, Tons
1913	147,558	28,558
1914	168,439	24,173
1915	183,906*	26,534

* Private communication from C. E. Siebenthal.

The disseminated lead district of southeast Missouri is the largest pure lead camp in the world, the profit from mining being due solely to lead, silver not being of commercial importance. This one district alone produces 33 per cent. of the entire lead output of the United States.

OPERATING COMPANIES IN SOUTHEAST MISSOURI

Southeast Missouri contains two distinct lead-producing districts: the Flat River or "Lead Belt," and another district which lies 25 miles southeast of the Lead Belt in the neighborhood of Fredericktown, in Madison County. The Lead Belt is much the larger and more important district, the daily tonnage milled being approximately 20,000 tons, while the mills in the Fredericktown region are handling about 2000 to 3000 tons daily, although the capacity in the near future will probably be greatly increased. A local map of the Lead Belt is shown in Fig. 2.

In the Lead Belt the following companies are operating: St. Joseph Lead Co., Federal Lead Co., St. Louis Smelting & Refining Co., Desloge Consolidated Lead Co., Baker Lead Co. and the Boston-Elvins Lead Co.

In 1913, the St. Joseph Lead Co. absorbed the Doe Run Lead Co., which operated its property at Rivermines. The St. Joseph Lead Co. has a 2400-ton mill at Bonne Terre, a 2000-ton mill at Leadwood and a 4200-ton mill at Rivermines. This company is the largest operator in the district.

The Federal Lead Co., which is affiliated with the American Smelting & Refining Co., operates two mills—the No. 3 mill at Flat River, which has a capacity of 5000 tons daily, and the No. 4 mill at Elvins, with a capacity of 3000 tons daily.

The St. Louis Smelting & Refining Co., locally known as the "National," because of its affiliation with the National Lead Co., operates a 2500-ton mill at St. Francois. This plant is being redesigned to handle 4000 tons daily.

The Desloge Consolidated Lead Co. operates one mill of 1500 tons capacity at Desloge.

The Baker Lead Co., at Leadwood, and the Boston-Elvins Lead Co., at Elvins, operate no mills, but ship their ore for treatment to the St. Louis Smelting & Refining Co.'s plant.

In the Fredericktown district, there are three lead-producing companies. The Federal Lead Co., near Mine La Motte station, operates

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the Catherine property, which has a capacity of 600 tons daily. The Missouri Cobalt Co., at Fredericktown, operates the plant formerly known as the North American Lead Co. The old plant has been largely scrapped and is being replaced by a modern one which will produce lead,

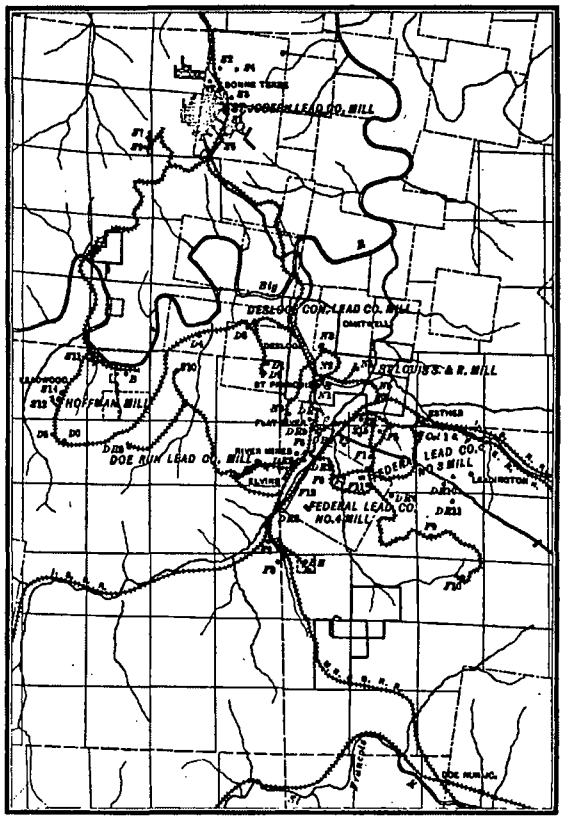

FIG. 2.—LOCAL MAP OF THE LEAD BELT, SHOWING LOCATION OF PLANTS OF OPERATING COMPANIES.

∘ = Shafts; *S* = St. Joseph Lead Co.; *F* = Federal Lead Co.; *DR* = Doe Run Lead Co.; *N* = St. Louis S. & R. Co.; *D* = Desloge Consolidated Lead Co.; *B* = Baker Lead Co.; *BE* = Boston-Elvins Lead Co.

copper, cobalt and nickel. The mill capacity will probably be 300 tons daily. This plant is not yet operating. The Missouri Metals Corporation is operating the classic old Mine La Motte property, at Mine La

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Motte. The property at present is producing lead and copper, but in the near future cobalt and nickel will also be produced. To the south of Fredericktown, the Einstein mine is being operated as a tungsten property.

The Fredericktown district is served by the Belmont Branch of the St. Louis, Iron Mountain & Southern R. R., which operates from Bismarck, on the main line, to Cape Girardeau and Belmont on the Mississippi River.

The galena-dolomite ores of the Catherine and Mine La Motte properties are similar to those of the Lead Belt and are given similar treatment. The copper-nickel-cobalt-iron-lead ores of the Missouri Cobalt Co. and at Mine La Motte demand a very different treatment. The proper method of handling these complex ores has not as yet been satisfactorily evolved.

The discussion in this paper will be limited to the concentration practice as related to treatment of the galena-dolomite ore of southeast Missouri, with special reference to the practice of the Lead Belt. The practice of treating the galena-dolomite ore of the Fredericktown district is similar to that used in the Lead Belt. Occasional reference, however, will be made to practice in the Fredericktown district which is radically different or which calls for comment. The methods used for treating the other ores of the Fredericktown district will be touched upon in a later portion of the paper.

History of the District

There is much of historic interest in reference to the lead deposits of southeast Missouri. M. de la Cadillac, or Lamotte, as he signed his name, arrived in Mobile Bay in 1713, with a commission as Governor of Louisiana. In 1715, he embarked upon an expedition into Illinois in search of silver, and it is thought that it was on this trip that he discovered the lead deposits at the headwaters of the St. Francois River, which even to this date bear his name—Mine La Motte. The date of the discovery is not definitely agreed upon by historians, but the time was about 1715 or 1720. In 1717, the charter of the "Company of the West" was registered in France, being established by the celebrated adventurer John Law.[3] This company, doubtless, controlled Mine La Motte—the story of which company has been so well recorded in *The Mississippi Bubble*. From that date, mining in this region has been almost continuous, but the work done in the early days was largely limited to surface diggings. During the Civil War, the furnaces at Mine La Motte were destroyed by the United States troops, but were soon afterward rebuilt, and from that date the work has been prosecuted on an increasing scale.

The year 1867 marks the turning point in the history of southeast

[3] Pulsifer: *Notes for a History of Lead*, 92, 93.

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Missouri. Previous to that date, mining had been practiced on a small scale, being limited to gophering in the surface deposits. In 1867, Charles Parsons came to Missouri and began making history for the region. At that time he occupied the position of superintendent for the St. Joseph Lead Co., and acted in either that capacity or that of manager until his death in 1910. He was actively engaged in the district for 43 years.[4] When Parsons came to the district, the yearly production of metallic lead was 100 tons. He secured the only diamond drill in the country—one imported from France—and began drilling. The drill was not a great mechanical success, but it did permit of developing the ground, at least to a depth of 200 ft. However, even after developing the disseminated ore, the company had no money for mill construction and the nearest railroad was 10 miles away. This meant that he had to freight in and out all supplies over poor roads, at the same time trying to develop a low-grade property. But he refused to acknowledge failure, continued to develop the property, and later succeeded in erecting a small mill where he began experimenting to determine the best means of concentrating the ore. This work was started about 1870, hand jigs, as well as all other types and kinds of machinery, being used. About 1880, the plant then operating was treating 200 tons a day in a hodge-podge mill, which has been aptly referred to as a "museum of ore dressing." H. A. Wheeler informs me that this was the beginning of the first actual milling in the district. The pay roll was frequently 6 months in arrears, and the property existed in this fashion for several years. In 1880, however, with the help of the Desloge Lead Co., a narrow-gage railroad 13 miles long was laid to connect with the Iron Mountain at Summit. The laying of the railroad was the beginning of success, and hundreds of teams, which formerly had been engaged in freighting, were laid off. Progress was rapid and the milling problem was rapidly worked out. The 200-ton test mill was burned in 1883 and a new mill was erected at Bonne Terre in 4 months, which building is yet standing. This was the first large mill in the district.

This mill had many ingenious and noteworthy features; all the concentration machinery was on one floor, there was plenty of light and the arrangement of the machinery was very simple, being patterned after Joplin practice, but the Parsons instead of the Cooley jig was used. An improved side-bump Rittinger table was installed which gave excellent results, but had only a small capacity. This mill had a rated capacity of 500 tons in 24 hr., and was really the beginning of large-scale milling in the Lead Belt. It was operated for 15 years without any decided changes except in length of building in order to increase the capacity. The capacity was finally increased to 800 tons.

[4] Charles B. Parsons: *Engineering & Mining Journal* (Feb. 5, 1910), 89, 309.

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The flow sheet in use in this mill was described by H. S. Munroe.[5]

For the year ending May 1, 1887, the ore yielded 5.65 per cent. lead, the loss in the tailing was 2.13 per cent.—or 27.4 per cent.—of the total, and the loss was largely due to slimed galena. This work may be considered very satisfactory and compares favorably with the results obtained from the modern mill before the introduction of flotation. The cost of milling was 36.4 c. per ton, made up as follows: Labor, 13.4 c.; repairs, 10 c.; supplies, 3.5 c. and coal, 9.5 c., making a total of 36.4 c. The results obtained in this mill are interesting, both as regards the costs attained and the metallurgical recovery, but of course the machinery was not crowded as is now the case, thus permitting much better operating conditions.

This same building is now standing and operating at Bonne Terre, but the flow sheet has been much changed. One of the first changes made was to replace the crusher feeders—12 men per shift—by a belt feeder. Later, the 12 small crushers were replaced by a central crushing plant using gyratory crushers, but the Cornish rolls still remain and give excellent results as regards cost. After the death of Parsons, the mill was much changed, the Parsons jigs being replaced by Hancocks and the Rittinger tables by Wilfleys. This plant is now treating 2400 tons daily.

About 1875 a mill was erected at Mine La Motte, which used the German system of concentration, and was a most excellent mill in many respects, and where the metallurgical work was very satisfactory. The ore was elevated to the crusher which was situated at the top of the mill. The ore then passed by gravity to the rolls and then to the line of screens. The oversize of 15 mm. was returned to the rolls, the undersize was sized on 10-mm., 7½-mm., 5-mm., 3-mm., 2-mm. and 1-mm. screens, each oversize being treated on a separate Harz jig. The undersize of 1 mm. was classified and treated on Evans convex buddles which were used as roughers, the concentrate being cleaned on Frue vanners. This mill was noted for its close sizing, typical of German practice. I am informed by H. A. Wheeler that the feed to this plant averaged from 12 to 18 per cent. lead, and that the tailing contained from 2 to 2½ per cent. lead, and that the mill had a capacity of 250 tons in 24 hr. It operated until about 1902, when it was torn down and replaced by two succeeding mills operating with the Joplin type of treatment, using the Cooley jigs. These mills were soon abandoned, and in 1907 a mill was erected by the Traylor Engineering & Mfg. Co. for the owners. This plant had a rated capacity of 500 tons in 24 hr. It is still operating, but the flow sheet has been greatly changed, the rolls being the only original piece of machinery left in the mill, which is now treating from 1200 to 1500 tons daily.

The Desloge mill at Bonne Terre was built about 1880 and had a

[5] *Trans.* (1888–89), 17, 659.

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capacity of 200 tons. It used the German sizing system. This plant was burned about 1888 and was never rebuilt. This mill was described by John M. Desloge. The ore yielded by concentration about 7 per cent. of non-argentiferous galena and 1 per cent. of cobalt-nickel-bearing pyrite. The concentrate contained 70 per cent. lead, while the so-called "sulphide" contained equal parts of galena, dolomite and pyrite.

About 1878 or 1880, a 100-ton mill was erected at the Einstein mine at the "Silver Mines" south of Fredericktown. This was a well-designed plant and used the German system of close sizing. Harz jigs and convex buddles were used, the mill giving good metallurgical results. Trouble with the mine caused the plant to shut down after about a year's operation.

The Doe Run Lead Co. built a mill at Doe Run in 1889. It was an exact duplicate of the Parsons mill at Bonne Terre, the capacity being 1000 tons per 24 hr. It operated up to about 7 years ago.

The Donnelly, Leadington and Central mills in the Lead Belt were constructed about 1894. Each of the two former ones had a capacity of 100 tons. They were built by Fraser & Chalmers and were standard "shop" mills. The Central had a capacity of from 200 to 300 tons, but in 1896 it was treating 600 tons—at least that tonnage could be put through the mill—with excellent results, the operating costs being about 24 c. per ton. This mill is fully described in Richards' *Ore Dressing*, Vol. IV. The Central was one of the famous old-time mills of the district.

About 1897, the Desloge Consolidated Lead Co. erected a 500-ton mill at Desloge. This mill has been changed considerably, and is now handling from 1500 to 2000 tons daily. It is of wooden construction and still retains the original Cornish rolls.

An 800-ton mill was built by the Federal Lead Co. about 1900. At this plant the ore was crushed through 3 mm. and treated on Bartlett tables, no jigs being used in the original plans. Later jigs were installed and initial concentration took place at a coarser size. The plant has not been in operation for several years, having been recently dismantled.

Fraser & Chalmers, in 1900, built a 250-ton mill for the Columbia Lead Co. It had three jig sizes and originally had convex Evans buddles, but later they were replaced by Frue vanners and reciprocating tables. This mill ran intermittently for 6 years until purchased by Doe Run Lead Co., which company ran it a year before abandoning it. About the same time, the Catherine mill was built near Mine La Motte, in the Fredericktown district. The Catherine is still operating, treating about 600 tons a day. A Joplin-type mill was built 2 years later at the Rattlesnake

[9] John M. Desloge: In discussion of paper by H. E. Armitage on Concentration of Low-grade Ores. *Trans.* (1889), 18, 262.

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Diggings at Mine La Motte. It operated for a couple of years and was then abandoned.

The Hoffman mill of the St. Joseph Lead Co. was erected about 13 years ago at Leadwood. This mill is of wooden construction. It is still operating, and has a capacity of approximately 2000 tons daily.

The St. Louis Smelting & Refining Co. put their mill into operation in 1900. This mill was the first one in the district of really modern construction, being built of steel, and was at that time the largest one in the district. It was designed to handle 1200 tons a day and used 175 Harz jigs and 24 circular slime tables.[7] In the crushing plant, seven jaw crushers, fed by hand, were used. They were soon replaced by gyratories. This plant operated along approved lines until 1907, when it installed the first Hancock jig ever used in the district. At this time the jig middling was ground in Huntington mills, the sand being treated on tables, the slime on vanners. This mill has, of course, been much changed —the Huntington mills and vanners having long since been discarded. Hancocks are still operating and the mill is handling 2500 tons daily.

A steel and concrete mill, plant No. 3, was built by the Federal Lead Co. in 1907. This was the largest mill in the district at that time, having a capacity of 2600 tons daily. It had a separate outside crushing plant where the ore was crushed dry to pass 8 mm. It then passed through a sampling plant to the mill storage bins. This arrangement was a big advance over anything practiced in the district. Three screen sizes were used, the oversize being treated on Harz jigs while the undersize of the 2-mm. screen was classified, some spigots being jigged, others being tabled. Soon afterward the Harz were replaced by Hancock jigs. This change greatly simplified the flow sheet and increased the capacity from 2600 to 4000 tons a day. The new flow sheet is shown in Fig. 3. This plant is still operating, treating 5000 tons a day, and it still maintains the distinction of being the largest mill in the district.

The steel-concrete mill of the Doe Run Lead Co. is situated at Rivermines. This mill, which began operating in 1910, followed the usual practice of the district of that day and installed Hancock jigs and tables. A description of this mill was published by A. H. Fay[8] and a later description has been given by C. T. Rice.[9] The flow sheet in use in the mill at the time it was constructed is shown in Fig. 4. This mill is still operating, having a capacity of 4200 tons a day.

The most recently constructed mill in the Lead Belt is the No. 4 mill

[7] Lead Mines of Southeastern Missouri: *Engineering & Mining Journal* (July 28, 1900), 70, 92.

[8] Operations of the Doe Run Lead Co.: *Engineering & Mining Journal* (March 19, 1910), 89, 610.

[9] Milling in Southeastern Missouri: *Engineering & Mining Journal* (June 28, 1913), 95, 1283.

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of the Federal Lead Co. This plant is the last word in mill design in the district, the construction being entirely of steel and concrete. The mill has a capacity of 3000 tons and will be described in more detail later in the article.

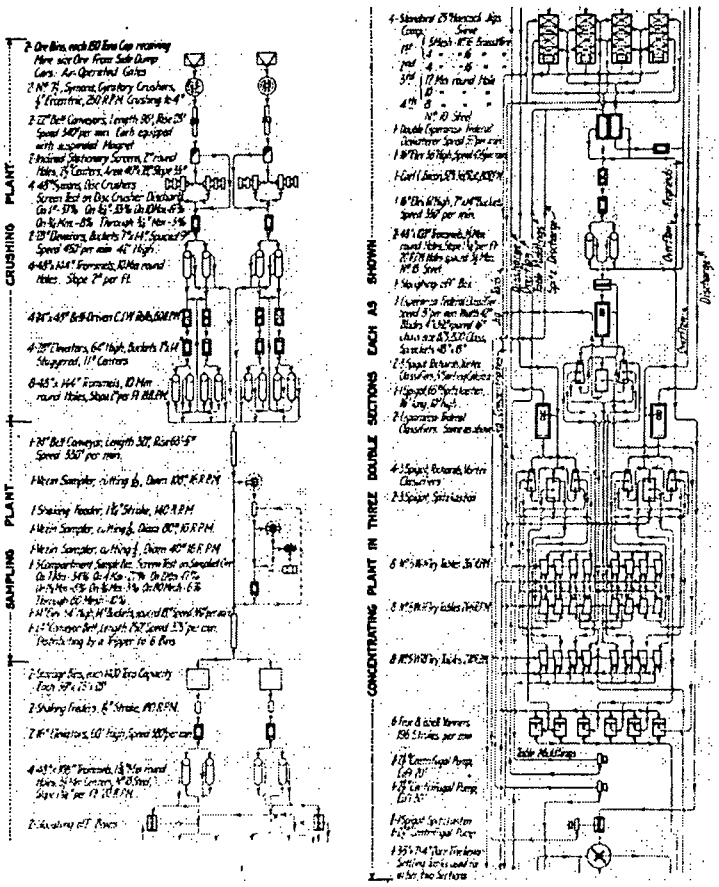

FIG. 3.—FLOW SHEET USED IN NO. 3 MILL OF THE FEDERAL LEAD CO. AFTER REPLACING HARZ BY HANCOCK JIGS.

As previously pointed out, there are seven mills now operating in the field, the practice in all of them being similar so far as principle is concerned, the flow sheets differing only in details.

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State of Missouri

Robin Carnahan, Secretary of State

Corporations Division
P.O. Box 1366
Jefferson City, Missouri 65102

File Number: 200913590099
X00270937
Date Filed: 05/15/2009
Expiration Date: 08/28/2014
Robin Carnahan
Secretary of State

Registration of Fictitious Name

(Submit with filing fee of $7.00)
(Must be typed or printed)

This information is for the use of the public and gives no protection to the name being registered. There is no provision in this Chapter to keep another person or business entity from adopting and using the same name. The fictitious name registration expires 5 years from the filing date. (Chapter 417, RSMo)

Please check one box:

☐ New Registration ☑ Renewal X00270937 (Charter Number) ☐ Amendment _____ (Charter Number) ☐ Correction _____ (Charter Number)

The undersigned is doing business under the following name, and at the following address:

Business name to be registered: THE DOE RUN COMPANY

Business address: 1801 PARK 270 DR STE 300
(PO Box may only be used in addition to a physical street address)

City, State and Zip Code: SAINT LOUIS MO 63146-4040

Owner Information:

If a business entity is an owner, indicate business name and percentage owned. If all parties are jointly and severally liable, percentage of ownership need not be listed. Please attach a separate page for more than three owners. The parties having an interest in the business, and the percentage they own are:

Name of Owners, Individual or Business Entity	Charter # Required If Business Entity	Street and Number, City and State, Zip Code	If listed, Percentage of ownership must equal 100%
THE DOE RUN RESOURCES CORPORATION	F00232995	1801 Park 270 Drive, Ste. 300 St. Louis, MO 63146	100%

All owners must affirm by signing below

In Affirmation thereof, the facts stated above are true and correct:

(The undersigned understands that false statements made in this filing are subject to the penalties of a false declaration under Section 575.060 RSMo)

Electronically Signed By: Matthew Wohl — *Authorized Signature*; Matthew Wohl — *Printed Name*; 05/15/2009 — *Date*

Name and address to return filed document:

Name: _____

Address _____

City, State, and Zip Code: _____

Corp. 56 (11/2008)

Articles of Association of the "Doe Run Lead Company" 3205

We the undersigned, J. Hyman Jones of Englewood New Jersey, Hugh N. Camp of New York City, New York, and Charles B. Parsons Fayette P. Graves and Gustave Setz of Bonne Terre St. Francois County Missouri.

do by these presents, and under and by Virtue of the Statutes of the State of Missouri, hereby associate ourselves together and form a body corporate and do adopt the following Articles of Incorporation.

Article I The name of this Corporation shall be "The Doe Run Lead Company"

Article II The chief place of business of the said Corporation shall be located at Bonne Terre St. Francois County Missouri.

Article III The Capital Stock of this Corporation shall be Two hundred Thousand Dollars ($200 000 00/100) divided into two thousand (2000) shares, of the par Value of One Hundred Dollars ($100.00) each, all of which Stock has been bona fide subscribed and actually paid up in lawful money of the United States and is in the custody of the persons hereinafter named as the first Board of Directors.

Article IV. The principal place

of residence of the several shareholders and the number of shares subscribed by each are as follows:

J. Wyman Jones, Englewood New Jersey 475 shares
Gustave Setz Bonne Terre St. Francois Co. Mo. 475 shares
Charles B. Parsons Bonne Terre St. Francois Co. Mo. 475 shares
Hugh N. Camp New York City New York 475 shares
Fayette P. Graves Bonne Terre St. Francois Co. Mo. 100 shares

Article V The buisiness of this Corporation shall be managed by a Board of five Directors; and the following named shareholders shall constitute said Board for the first Year: J. Wyman Jones, Gustave Setz, Charles B. Parsons, Hugh N. Camp, and Fayette P. Graves.

Article VI This Corporation shall continue for the period of fifty Years.

Article VII The purposes for which this Corporation is formed are to buy own and work lead bearing lands, to mine lead ore, make pig lead, and manufacture any of the products of pig lead, to build and operate tram or rail ways under and above ground, and generally to carry on the buisiness usually done by lead Companies in all its branches; and to do any and all things that may be necessary or expedient to that end.

In Testimony Whereof we have hereunto set our hands & seals this 2nd day of November A. D. 1886

J. Wyman Jones (Seal)

Gust. Setz (Seal)
C. B. Parsons (Seal)
F. P. Graves (Seal)

State of Missouri }
City of St. Louis } ss

Be it remembered that on this 2nd day of November 1886 before the undersigned a Notary Public within and for the City of St. Louis and State of Missouri personally came J. Wyman Jones, Fayette P. Graves, Charles B. Parsons and Gustave Setz who are personally known to me to be the same persons whose names are subscribed to the foregoing instrument of writing as parties thereto, and each acknowledged the same to be his act and deed for the purposes therein mentioned

In Testimony whereof I have hereunto set my hand and affixed my official seal at my office in the City of St. Louis Missouri on this the day of November A.D. 1886

(Seal)

Charles T. Tausig
Notary Public

Commission expires Jun. 29. 1889.

Filed for record November 4th A.D. 1886

John C. Alexander
Recorder

State of Missouri }
County of St. Francois }

I John C. Alexander Clerk of the Circuit Court and Ex-Officio Recorder within and for the County of St. Francois and State aforesaid, do hereby certify that the above and foregoing is a true copy of the Articles of Association of the "Doe Run Lead Company" as fully and completely as the same remain on record in my office in Book "30" at page 444 of the Land Records of St. Francois County Missouri.

In Testimony Whereof I have hereunto set my hand and affixed my official seal. Done at my office in the City of Farmington Missouri, this 4th day of November A.D. 1886.

John C. Alexander Clerk and Ex-Officio Recorder.

Articles of Association of the "Doe Run Lead Company"

Certified copy

Fee $1.00 paid

Circuit Court and Ex-Officio Recorder within and for the County of St. Francois and State aforesaid do hereby certify that the above and foregoing is a true copy of the Articles of Association of the "Doe Run Lead Company" as fully and completely as the same remain on record in my office in book "30" at page 444 of the Land Records of St. Francois County Missouri

In Testimony Whereof I have hereunto set my hand and affixed my official seal. Done at my office in the City of Farmington Missouri, this 4th day of November A.D. 1886.

John C. Alexander Clerk and

Articles of Association of The Doe Run Lead Company

Cap $200.000
Bonne Terre
St. Francois Co.

Filed and Certificate of Incorporation issued November 8. 1886.
Mich. S. McGrath
Secretary of State

125 00

Treasurer's Office State of Missouri
City of Jefferson Nov 8th 1886
Received of The Doe Run Lead Company
One Hundred & Twenty Five & 00/100 Dollars
On account of Tax on Capital Stock due from said Corporation.
STATE REVENUE FUND.

In Testimony Whereof I have hereunto set my hand and affixed my seal of office the day and year above.

James M. Seibert Treasurer
Chief Clerk

2718

(Signed in Triplicate)

STATE OF MISSOURI

No. 3205

CERTIFICATE OF INCORPORATION

WHEREAS, J. Wyman Jones, G. Setz, C. B. Persons and F. P. Graves have filed in the office of the Secretary of State, Articles of Association or Agreement, in writing, as provided by law, and have, in all respects, complied with the requirements of law governing the formation of Private Corporations for Manufacturing and Business purposes.

NOW, THEREFORE, I, MICHAEL K. McGRATH, Secretary of State of the State of Missouri, in virtue and by authority of law, do hereby certify that said parties, their associates and successors, have become a body corporate, and duly organized, under the name of

"THE DOE RUN LEAD COMPANY"

and have all the rights and privileges granted to Manufacturing and Business Corporations under the laws of this State. And that the amount of the Capital Stock of said Corporation is Two hundred thousand Dollars.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State of Missouri. Done at the City of Jefferson, this Eighth day of November A. D. eighteen hundred and eighty-six.

(SEAL)

Mich'l. K. McGrath,
Secretary of State.

STATE OF MISSOURI.

No. 3205

CERTIFICATE OF INCORPORATION.

Whereas, J. Wyman Jones, G. Selz, G. B. Parsons and F. P. Graves

have filed in the office of the Secretary of State, Articles of Association or Agreement, in writing, as provided by law, and have, in all respects, complied with the requirements of law governing the formation of Private Corporations for Manufacturing and Business purposes.

Now, Therefore, I, MICHAEL K. McGRATH, Secretary of State of the State of Missouri, in virtue and by authority of law, do hereby certify that said parties, their associates and successors, have become a body corporate, and duly organized, under the name of

"The Doe Run Lead Company"

and have all the rights and privileges granted to Manufacturing and Business Corporations under the laws of this State. And that the amount of the Capital Stock of said Corporation is

Five Hundred Thousand Dollars

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State of Missouri. Done at the City of Jefferson, this Eighth day of November, eighteen hundred and eighty-four.

[SEAL.]

Mich. K. McGrath
Secretary of State.

STATE OF MISSOURI)
) SS.
COUNTY OF ST. FRANCOIS)

BE IT REMEMBERED that on the 8th day of February, 1936, and during the regular February Term of the Circuit Court of St. Francois County, State of Missouri, the following proceedings were had in the matter of the petition of The Doe Run Lead Company, a corporation, for a decree of dissolution, to-wit:

In the Matter of)
THE DOE RUN LEAD COMPANY) Dissolution Decree.
a corporation: Petition)
for Dissolution.)

Now on this 8th day of February, 1936, it being the 6th day of the regular February Term, 1936, of the Circuit Court of St. Francois County, Missouri, this cause comes on for hearing in due course. And it appearing from the record of this cause that the petition of The Doe Run Lead Company for a decree of dissolution, duly verified by the President and the Secretary of the corporation, was filed in the office of the Clerk of this Court, in vacation, on the seventh day of January, 1936, and that thereafter, and on the same day, all the officers and shareholders of the corporation entered their appearance in said cause, in writing, and therein waived service of all further notices required under Section 4564, Revised Statutes, 1929, of Missouri, and all other notices, as well, incident to or pertaining to said cause. And it further appearing and being shown to the Court, that all claimants, creditors, persons having unexecuted contracts with said corporation, or other persons interested in said cause or corporation and residing in said County of St. Francois, and who had not theretofore entered their appearance in said cause, were each duly served with summons, issued under the hand and seal of the Clerk of said Court, in vacation, dated January 7, 1936, reciting the filing of said petition, its general nature and purpose, and citing each of them to appear in said cause, in said Court, on the 6th day of February, 1936, to show cause, if any they have, against said dissolution; that summons so served on

each person therein named was more than twenty-one and less than thirty days next after the date of filing said petition; that in addition thereto, notice of the general nature and cause of said application was given to all claimants, creditors and persons having unexecuted contracts with said corporation, non-resident in said County of St. Francois, by publication, (issued under the hand and seal of the Clerk of said Circuit Court, January 7, 1936), in The Star News-Register, a weekly newspaper of general circulation through the Post Office for more than one year in said St. Francois County, and published in the City of Bonne Terre, County aforesaid, once a week for three weeks consecutively next before the 6th day of February, 1936, the return day named in said publication, then and there to show cause, if any, why said corporation should not be dissolved as prayed, all of which appears from the proof of publication and return of same filed in this cause.

It is further shown to the Court that petitioner was organized under the laws of Missouri, November 8, 1886, to buy, own and work lead-bearing lands and to mine lead ore and to manufacture same into lead, and for other purposes; and at this time the capital stock of said corporation is One Million Dollars ($1,000,000.00) divided into ten thousand (10,000) shares of common stock without nominal or par value, of which six thousand five hundred seventy-four and nine-tenths (6,574.9) shares are issued and outstanding and fully paid on the basis and price of One Hundred Dollars ($100.00) per share, and in the hands of the following shareholders:

	Shares
St. Joseph Lead Company, 250 Park Ave., New York, N.Y.	6,567.9
Clinton H. Crane (President & Director) 250 Park Avenue, New York, N. Y.	1
F.H. Hearing (Secretary & Director), Bonne Terre, Mo.	1
Irwin H. Cornell (Director), 250 Park Ave., New York, N.Y.	1
C. Merrill Chapin, Jr. (Director) 250 Park Ave., New York, N.Y.	1
Andrew Fletcher (Director), 250 Park Ave., New York, N.Y.	1
C. H. Barker, Bonne Terre, Mo.	1
Parkhurst Sleeth, Bonne Terre, Mo.	1

It is further shown to the Court that said corporation owns and is seized, at law and in equity, free and clear of mort-

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gages, encumbrances, judgments, pledges or liens, on the following described real estate and personal property, situate and being in the County of St. Francois, State of Missouri, to-wit:

THE DOE RUN LEAD COMPANY.
REAL ESTATE.

Acres	Description	Sec.T.R.
160.00	SW¼	24-35-4
153.93	SE Frl.¼ except 1 acre	1-36-4
40.00	SW¼ SW¼	1-36-4
100.00	E½ SE¼ & S½ SW¼ SW¼	2-36-4
403.86	NW¼, E½ NE¼NE¼, E½ SW¼, NW¼SE¼, SW¼ NE¼, NW¼SW¼, & W. Pt. SW¼SE¼	10-36-4
340.00	N½ NE¼, N½ NW¼, SE¼, E½ SE¼, NW¼ SW¼, & SE triangular ½ of SW¼ SW¼, less 7 acres surface rights	11-36-4
570.00	NE¼, SE¼, SW¼, & W½ NW¼, less surface rights to Rivermines and Elvins town lots and 2 acres deeded	12-36-4
101.46	NE¼ NW¼, W½ NW¼ NE¼, E½ SE¼ NW¼ SW Cor. SW¼ NE¼, NE Cor. NW¼ NW¼, Pt. E½ NW¼ NE¼ Pt. NW¼ NW¼, Pt. NE¼ NE¼, less 11.32 surface	13-36-4
120.00	N½ NW¼ & SW¼ NW¼	14-36-4
382.39	NE¼, E½ NE¼, S½ NE¼, SE¼ NW¼, E½ NE¼ SW¼, Pt. W½ NW¼ SW¼ & Pt. SE¼ SW¼, less 2.40 acres surface rights deeded	8-35-5
124.27	Pt. W½ SW¼ & Pt. SE¼ SW¼, less surface rights to town lots & 29.56 acres surface rights deeded	9-35-5
.65	SW Frl.¼	13-35-5
40.00	SW¼ SW¼	14-35-5
80.00	SW¼ SE¼ & SW¼ NW¼, less 1.21 acres surface rights deeded	15-35-5
196.74	W½ NW¼, NE¼ NW¼ & N½ SW¼, less surface rights to town lots & 4.51 acres surface rights deeded	16-35-5
250.00	NE¼ & N½ SE¼, less surface rights to town lots & 10.67 acres surface rights deeded	17-35-5
160.00	NE¼ NW¼, NW¼ NE¼, N½ SE¼ NW¼, N½ S½ NE¼, & SW¼ NW¼	22-35-5
240.00	SE¼, NE¼ SW¼ & SE¼ NW¼	23-35-5
75.64	NW Frl¼	24-35-5
160.00	NE¼	26-35-5

Acres	Description	Sec. T. R.
185.00	E½ SE¼, W½ SE¼ NE¼, W. Pt. NE¼ NE¼ SW¼ NE¼, N½ NW¼ SE¼, & Pt. S½ NW¼ SE¼	28-35-5
80.00	W½ NW¼	
80.00	SW¼ SW¼ & NW¼ SW¼, less surface rights to town lots & surface rights to 50.95 acres	4-36-5
62.72	Frl. E½ of SE¼, & Pt. Lot 1 of NE¼, except surface rights to 1.5 acres	5-36-5
108.20	Lot 1 SW Frl¼, & W½ SE Frl¼, less surface rights to town lots	6-36-5
302.34	Pt. NW¼, Pt. NE¼, Pt. SW¼, & Pt. SE¼, less surface rights to town lots & surface rights to Power Plant site	7-36-5
103.70	E½ SE¼ & SW¼ Frl¼ of SE Frl¼, less surface rights to town lots	8-36-5
420.00	Pt. W½, Pt. W½ NE¼, & Pt. W½ SE¼, less surface rights to town lots and surface rights to 110.15 acres deeded	9-36-5
280.00	N½ NW¼, N½ NW¼, SW¼ NE¼, & W½ SE¼, less 40.19 acres surface rights deeded	16-36-5
400.35	N½, SW¼, N½ NW¼ & SE¼ SE¼	17-36-5
93.16	NW Frl.¼, & W½ SE Frl¼, less surface rights to 44.20 acres	18-36-5
156.88	Pt. SE¼	19-36-5
294.37	N½ & Lot 2 SW¼ & Pt. NE¼ & Pt. NE¼ NE¼	30-36-5
80.00	SE¼ SW¼, & SW¼ SE¼	13-38-5
114.00	Pt. NE¼	24-38-5
60.00	Pt. NE¼	8-38-6
160.00	SW¼ NE¼, NW¼ SW¼, & N½ SW¼ (140 acres in Ste. Genevieve Co.)	9-38-6
240.00	That part of S½ of Section which is located in St. Francois Co.	23-38-6
138.40	West part, less 1.70 acres surface rights, Sur.	30-37-5
1.00	Part Lot 1 Sur.	2969-35-5
67.40	Lot 123, Surface rights only, Sur.	2969-35-5
89.50	Lot 5 Sur.	8092 &1864-36-5

7,215.76 ~~xxxx~~ Acres - total.

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Lots 4, 5, 8, 17, Blk. 1; Lot 7, Blk. 2; Lot 15, Blk. 3; Lot 2, Blk. 4; Lot 2 & Pt. Lot 3, Blk. 5; Lot 15, Blk. 6; Lot 4, Blk. 7; Lots 2, 8 & 11, Blk. 9; Lot 16, Blk. 10; Pt. Lot 1 & Lots 9 & 10, Blk. 11; Pt. Lot 6, Blk. 12; Lot 8, Blk. 13; Lot 2, Blk. 15; Lots 7, 8 & 9, Blk. 17; Lot 3, Blk. 18; Lot 16, Blk. 19; Lots 1, 2, 4-7, Blk. 20; Lots 1-3, Blk. 21; Lots 6, 9 & 16, Blk. 22; Lots 4, 10, 11, 12 & 13, Blk. 23; Pt. Lot 8, Blk. 25; Lots 1 & 3, Blk. 27; Lots 4, 8 & 9, Blk. 29; Lots 5 & 16-C, Blk. 30; Lots 7 & 10, Blk. 31; and Lots 2, 3, 4, 7 & 8, Blk. 36, Flat River.

Lots 1-5 & 8-14, Blk. 1; Lots 4 & 10-14, Blk. 2; Lots 4-6, 12-& 13, Blk. 3; Lots 1-4, Blk. 6; Lots 1-4, Blk. 7; and Lots 1-8, Blk. 7, New Town.

Lots 2, 4, 5, 9 & 11-15, Blk. 1; Lots 1-4 & 6-8, Blk. 2; Lots 3-7, 9, 10 & 12-14, Blk. 18; Lots 1 & 5-8, Blk. 28; Lots 1-5 & 8, Blk. 29; Lots 1-6 & 8, Blk. 30; Lots 3-5, Blk. 31, Lots 1-4, Blk. 32; Lots 1-3 Blk. 33; Lots 1-8, Blk. 34; Lots 1, 3 & 5-8, Blk. 35; and Lots 1 & 5-8, Blk. 36, Mitchell.

Lots 1-8, Blk. 1; Lots 1-6 & 8, Blk. 2; Lots 1-7, Blk. 3; Lots 1-8, Blk. 4; Lots 1-8, Blk. 5; Lots 1-8, Blk.6; Lots 1-8, Blk. 7; Lots 3-10, Blk. 8; Lots 1 & 2, Blk. 9; Lots 1-8, Blk. 11; Lots 1-8, Blk. 12; Lots 1, 2, 7 & 8, Blk. 14; Lots 2, 3 & 5-7, Blk. 15; Lots 2-4, Blk. 16; Lots 5-8, Blk. 17; Lots 1-8, Blk. 19; Lots 1-8, Blk. 20; Lots 4, 7 & 8, Blk. 21; Lot 1, Blk. 22; Lots 2, 3 & 5-7, Blk. 23; Lots 1-4, Blk. 24; Lot 8, Blk. 25; Lots 2-4, 6, 7 & 9-11, Blk. 26; Lots 1-7 & 9-12, Blk. 27; Lots 1-6, 8 & 9, Blk. 28; Lot 8, Blk. 29; Lots 5-8, Blk. 30; Lots 4, 8 & 9, Blk. 31; Lots 1-4, Blk. 32; Lots 1-6, 9 & 12, Blk. 33; Lot 3, Blk.34; Lot 5, Blk. 38; Lots 3, 4, 6, 7 & 9-12, Blk. 39; Lots 1 & 3-11, Blk. 40; Lots 3, 4, 6, 7, 11, 12, 15 & 16, Blk. 41; Lot 1, Blk. 42; Pt. Lot 1 & Lots 4-6, Blk. 43; Lot 8, Blk. 45; Lots 2 & 4, Blk. 46; Lots 1-3, Blk. 47; Lot 1, Blk. 49; Lots 1-8, Blk. 52; Lots 1-8, Blk. 53; Lots 1-5, 7 & 8, Blk. 54; Lots 1-9, Blk. 57; Lots 1-10, Blk. 58; and Lots 1-3, Blk. 59, Doe Run.

Lots 1 & 2, Blk. 7, Hamilton's Subdivision.

Lots 5, Blk. 4, Morris & Swink's Subdivision.

Lots 7-12, Blk. 56, DeLassus.

Lots 4 & 5, Blk. 1; Lots 6-8, Blk. 2; Lot 10, Blk. 3; Lot 9, Blk. 4; Lots 5 & 6, Blk. 5; Lots 5 & 6, Blk. 6; Lots 6-9, Blk. 8; Lots 7-11, Blk. 9; Lots 4 & 5, Blk. 10; Lots 3, 6, 9 & 10, Blk. 11; Lot 2, Blk. 12; Lots 2-6 & 8-12, Blk. 13; Lots 1, 2, 4 & 8, Blk. 14; and Lots 1-4, Blk. 15, Esther.

Lots 9-11, Blk. 1; Lots 1, 5 & 8, Blk. 2; Lots 3, 10, 14, 29 & 30, Blk. 4; Lots 8, 15, 16, 18, 23, 24, 27, 28 & 32, Blk. 5; Lots 14 & 16, Blk. 6; Lots 1, 3, 5 & 6, Blk. 7; Lot 3, Blk. 8; Lots 2 &14, Blk. 11; and Lots 7-10, 12-15, Pt. 17, Lot 21, N. E. Pt. 18, S. W. Pt. 18 & Lots 22, 25, 26 & 29, Blk. 12, Elvins.

Lots 5, 6, 9, 11 & 15-18, Blk. 75; Lots 5-7, 10, 17 & 18, Blk. 76, Doe Run Lead Company's 1st Addition to Elvins.

Lots 1-5, Blk. 71; and Lots 1-8, 15 & 16, Blk. 73, Doe Run Lead Company's 3rd Addition to Elvins.

Lots 1, 2, 6 & 7, Blk. 100; and Lots 1 & 2, Blk. 200, West Elvins.

Lots 4-6, Blk. 8, Setz's Addition to Elvins.

Lots 18, 27 & 36, Blk. 2; Lot 20, Blk. 6; Lots 2, 6-13, 15, 16, 18 & 19, Blk. 17; Lots 1, 2, 7-17, 19, 20, 20A & 21-26, Blk. 18; Lots 1, 3, 11, 12 & 23, Blk. 19; Lots 1, 6-13, 16-20, 22, 23, 25, 31 & 33, Blk. 20; Lots 1-11, Blk. 50; Lots 1-25, Blk. 51; Lot 35, Blk. 2; Lot 18, Blk. 6; and Lot 4, Blk. 18, Rivermines.

Lots 3, 5, 8, 10, 13 W½ 15, 23-26 & 28-30, Blk. 74, Doe Run Lead Company's 1st Addition to Rivermines.

Lots 1, 2, 8 & 9, Blk. F; Lot 9, Blk. H; and Lots 5 & 6, Blk. I, Bennett's Plat of Leadington.

PERSONAL PROPERTY

1275	Steel 2½-ton Mine Cars	7	Surveying Transits
4	2½-ton Mine Locomotives	4	Surveying Compasses
1	3-ton Locomotive	1	Telephone Switchboard
1	6-ton Locomotive	1	Complete Lot of Household Furnishings in Club House at Rivermines
5	8-ton Locomotive		
6	12-ton Locomotives		
1	10-ton Locomotive	3	150 H.P.Motors
6	St. Joe Power Shovels	1	85 H.P.Motor
2	Thew Power Shovels	2	75 H.P. Motors
1	Conway Power Shovel	1	60 H.P.Motor
1	Keystone Power Shovel	3	50 H.P.Motors
10	Ellison Prospect Drills	1	38½ H.P.Motor
3	Sullivan Prospect Drills	5	5 H.P.Motors
1	Star Churn Drill	1	10 H.P.Motor
155	Air Mine Drills	5	20 H.P.Motors
1	Chambersburg Air Hammer	3	15 H.P.Motors
1	L. & S. Lathe	1	7½ H.P.Motor
1	LeBlond Lathe	3	12 H.P. Nortner M.G.Sets
1	Universal Miller	1	5 H.P. Westg. M.G. Set
3	Power Drills -- 16", 18" & 26"	1	Buick Sedan, 1929
1	24" Single Surfacer	1	Ford Coach, 1930
1	Grindstone	1	Pontiac Coach, 1927
1	Wood Surfacer	2	Ford Roadsters, 1928 & 1929
1	Wood Lathe	2	Chevrolet Coaches, 1927 & 1929
3	Cutting Torches	1	Chevrolet Truck, 1929
35	Crank Jacks	1	GMC 5-ton, 1929
1	Portable Grease Gun	1	Fordson Tractor
14	Chain Blocks, 1-5 ton	3	25 KVA Westinghouse Transformers
2	Electric Breast Drills		
2	Track Bonders	3	7½ KVA " "
1	Anvil	3	30 " " "
1	Machinist's Vise	1	50 " General Electric "
4	Adding Machines	2	50 " Molohey Transformers
5	Calculating Machines	2	100 " " "
19	Office Chairs	1	200 " " "
12	Desks	2	150 " " "
2	Steel Safes	1	20000 v. G. E. "
19	Tables	2	Ottumwa Hoists
16	Telephones	4	Sturtevant Blowers
14	Electric Fans	1	Lidgerwood Hoist
14	Letter Files	1	Air Hoist
1	Billing Machine	3	Hand Operated Hoists
2	Typewriters	3	Sheave Wheels
2	Clocks	4	Bowser Oil Tanks
2	Stoves	16,337	Tons Pig Lead
49	Cabinets	150	Tons Concentrates
2	Blue Print Machines		
1	Photostat Machine		Cash, $2,668.89
4	Surveying Levels		

LIST OF BOOKS OF THE DOE RUN LEAD COMPANY

Stock Certificate Book and stubs from beginning of company.
Stock Ledgers " " " "
Minute Books
4 General Ledgers (bound)
3 General Ledgers (loose Leaf)
3 General Journals (bound)
12 Books of Journal Vouchers (loose leaf)
12 Cash Books (bound)
8 Books of Financial Statements (loose leaf)
3 Distribution of Accounts Payable (bound)
4 Voucher Registers (bound)
2 Voucher Registers (loose leaf)
1 Bill Register (loose leaf)
1 Notes Payable (bound)
3 Dividend Books (bound)
House Rent Ledger, Lease Rent Ledger and Pension Roll
Accounts Payable Vouchers, November, 1886, to date, except August 17, 1917 to December 31, 1920.
Journal Vouchers - not bound, March, 1911, to August, 1917.

It is further shown that the corporation has no unexecuted contracts, nor outstanding engagements not fully satisfied or canceled; that the following are the names of alleged claimants or creditors:

Wm. H. Anthony, James Barnes, John A. Bay, Andrew W. Bennett, George Bible, Felix S. Campbell, William Cartee, Delbert Francis, Chas. A. Delcoure, Gertrude Dix, W. A. Forsyth, W. H. Gamblin, Walter Gray, James Jolley, John F. Kemp, Wm. C. Kindle, Joe LaChance, Sterling LaChance, Robert McDaniel, Noah Marler, Joseph P. Martin, John Mills, Wm. Montgomery, Mary Moore, John P. Mouser, Wm. L. Porter, Marion S. Rhodes, Geo. Skaggs, William Smith, Carrie Whiteaker, Susan Wilfong, Henry Wishon, James Wright, all of whom are non-residents of said St. Francois County, Missouri.

And Martin Alexander, Geo. W. Amberg, Harry H. Barton, Ernest A. Blankenship, Jesse L. Boring, Walter C. Bone, John Buff, Raymond Byers, Charles F. Chapman, Curtis Colson, Willis P. Crawford, Lawrence A. Crouch, John Degonia, Joe L. Deremo, R. O. Dickey, Zeb T. Dillard, Lee Dix, John H. Edgar, Fred (Ford) Fingers, Charles E. Fortner, Mary Frye, Carrie Henderson, C. L. Hillman, Jacob Cleveland Hovis, Phillip Jarrette, James Jolley, Charles A. Jones, Pleasant G. Keith, Charles Klesch,

William A. Knowles, Raymond LeBrot, Glenwood Langley, Joseph Frank Lawson, Edward Paul Leonard, William Ira Lincoln, Charles A. Marler, Joseph P. Martin, Benjamin F. Mintner, Owen E. Murry, Emmett K. Ragsdale, Betty Jane Reed, Madison Reese, Clyde Revelle, R. L. Roberts, Ben Sales, Henry Schwent, Moses Sebastian, John F. Shelton, Poley Sumpter, Lawrence Thurman, Henry Frank Umfleet, Howard Underwood, Grover Clarence Walsh, Paul C. Warren, Walter L. Warwick, Chris Weiss, Bert White, Jess Wildman, Caria Williams, Joe Williams, Lee Willis, all of whom are residents of said St. Francois County, Missouri.

It is further shown to the Court that on the 3rd day of January, 1936, a special meeting of the stockholders of said corporation, duly called and held at its general business office in the City of Bonne Terre, aforesaid, for the purpose, among other things, of voting upon the adoption of a resolution favoring a dissolution of said The Doe Run Lead Company; that at said meeting a resolution favoring such dissolution was duly presented for the vote of the stockholders of said corporation, and the same was duly adopted by at least ninety per cent. of all the issued and outstanding shares of the capital stock of said corporation, to-wit, by the holders of one hundred per cent. of all said issued and outstanding capital stock; that the result of said vote was by the inspectors, shareholders (not directors) of said corporation, theretofore appointed by the President [illegible] corporation and duly sworn, as required by law, to canvas and [illegible] the vote so cast, on the same day duly certified to the President of said corporation the vote so cast on said resolution, who thereupon and on the same day presented the same to the Board of Directors of said corporation at a special meeting of said Board, duly called and held, in said City of Bonne Terre on said 3rd day of January, 1936; and that at said meeting of said Board, on motion duly made, seconded, voted upon and carried by the unanimous vote of all the members present and constituting a quorum of said Board, it was ordered and directed that suit be filed pursuant to the statutes of Missouri, for the dissolution of said The Doe Run Lead Company.

STATE OF MISSOURI,)
) SS.
COUNTY OF ST.FRANCOIS.)

BE IT REMEMBERED that on the 8th day of February, 1936, and during the regular February Term of the Circuit Court of St. Francois County, State of Missouri, the following proceedings were had in the matter of the petition of The Doe Run Lead Company, a corporation, for a decree of dissolution, to-wit:

In the Matter of THE DOE RUN LEAD COMPANY, a Corporation: Petition for Dissolution.	Dissolution Decree.

Now on this 8th day of February, 1936, it being the 6th day of the regular February Term, 1936, of the Circuit Court of St. Francois County, Missouri, this cause comes on for hearing in due course. And it appearing from the record of this cause that the petition of The Doe Run Lead Company for a decree of dissolution, duly verified by the President and the Secretary of the corporation, was filed in the office of the Clerk of this Court, in vacation, on the seventh day of January, 1936, and that thereafter, and on the same day, all the officers and shareholders of the corporation entered their appearance in said cause, in writing, and therein waived service of all further notices required under Section 4564, Revised Statutes, 1929, of Missouri, and all other notices, as well, incident to or pertaining to said cause. And it further appearing and being shown to the Court, that all claimants, creditors, persons having unexecuted contracts with said corporation, or other persons interested in said cause or corporation and residing in said County of St. Francois, and who had not theretofore entered their appearance in said cause, were each duly served with summons, issued under the hand and seal of the Clerk of said Court, in vacation, dated January 7, 1936, reciting the filing of said petition, its general nature and purpose, and citing each of them to appear in said cause, in said Court, on the 6th day of February, 1936, to show cause, if any they have, against

nature and cause of said application was given to all claimants, creditors and persons having unexecuted contracts with said corporation, non-resident in said County of St. Francois, by publication, (issued under the hand and seal of the Clerk of said Circuit Court, January 7, 1936), in The Star News-Register, a weekly newspaper of general circulation through the Post Office for more than one year in said St. Francois County, and published in the City of Bonne Terre, County aforesaid, once a week for three weeks consecutively next before the 6th day of February, 1936, the return day named in said publication, then and there to show cause, if any, why said corporation should not be dissolved as prayed, all of which appears from the proof of publication and return of same filed in this cause.

It is further shown to the Court that petitioner was organized under the laws of Missouri, November 8, 1886, to buy, own and work lead-bearing lands and to mine lead ore and to manufacture same into lead, and for other purposes; and at this time the capital stock of said corporation is One Million Dollars ($1,000,000.00) divided into ten thousand (10,000) shares of common stock without nominal or par value, of which six thousand five hundred seventy-four and nine-tenths (6,574.9) shares are issued and outstanding and fully paid on the basis and price of One Hundred Dollars ($100.00) per share, and in the hands of the following shareholders:

	Shares
St. Joseph Lead Company, 250 Park Ave., New York, N. Y.	6,567.9
Clinton H. Crane (President & Director), 250 Park Avenue, New York, N. Y.	1
F. H. Dearing (Secretary & Director), Bonne Terre, Mo.	1
Irwin H. Cornell (Director), 250 Park Ave., New York, N.Y.	1
C. Merrill Chapin, Jr. (Director) 250 Park Ave., New York, N.Y.	1
Andrew Fletcher (Director), 250 Park Ave., New York, N. Y.	1
C. H. Barker, Bonne Terre, Mo.	1
Parkhurst Sleeth, Bonne Terre, Mo.	1

It is further shown to the Court that said corporation owns and is seized, at law and in equity, free and clear of mortgages, encumbrances, judgments, pledges or liens, of the following described real estate and personal property, situate and being in the County of St. Francois, State of Missouri, to-wit:

THE DOE RUN LEAD COMPANY.

REAL ESTATE.

Acres	Description	Sec.T.R.
160.00	SW¼	24-35-4
153.93	SE Frl.¼ except 1 acre	1-36-4
40.00	SW¼ SW¼	1-36-4
100.00	E½ SE¼ & S½ SW¼ SW¼	2-36-4
403.86	NW¼, E½NE¼NE¼, E½ SW¼, NW¼SE¼, SW¼ NE¼, NW¼SW¼, & W. Pt. SW¼SE¼	10-36-4
340.00	N½ NE¼, N½ NW¼, SE¼ NE¼, E½ SE¼, NW¼ SW¼, & SE triangular ½ of SW¼ SW¼, less 7 acres surface rights	11-36-4
570.00	NE¼, SE¼, SW¼, & W½ NW¼, less surface rights to Rivermines and Elvins town lots and 2 acres deeded	12-36-4
101.46	NE¼ NW¼, W½ NW¼ NE¼, E½ SE¼ NW¼, SW Cor. SW¼ NE¼, NE Cor. NW¼ NW¼, Pt. E½ NW¼ NE¼, Pt. NW¼ NW¼, Pt. NE¼ NE¼, less 11.32 surface	13-36-4
120.00	N½ NW¼ & SW¼ NW¼	14-36-4
382.39	SE¼, E½ NE¼, SW¼ NE¼, SE¼ NW¼, E½ NE¼ SW¼, Pt. W½ NE¼ SW¼ & Pt. SE¼ SW¼, less 2.40 acres surface rights deeded	8-35-5
124.27	Pt. W½ SW¼ & Pt. SE¼ SW¼, less surface rights to town lots & 29.56 acres surface rights deeded	9-35-5
.65	SW Frl.¼	13-35-5
40.00	SW¼ SW¼	14-35-5
80.00	SE¼ SE¼ & SW¼ NW¼, less 1.21 acres surface rights deeded	15-35-5
196.74	W½ NW¼, NE¼ NW¼ & N½ SW¼, less surface rights to town lots & 4.51 acres surface rights deeded	16-35-5
250.00	NE¼ & N½ SE¼, less surface rights to town lots & 10.67 acres surface rights deeded	17-35-5
160.00	NE¼ NW¼, NW¼ NE¼, N½ SE¼ NW¼, N½ SW¼ NE¼, & SW¼ NW¼	22-35-5
240.00	SE¼, NE¼ SW¼ & SE¼ NW¼	23-35-5
75.64	NW Frl¼	24-35-5
160.00	NE¼	26-35-5
185.00	E½ SE¼, W½ SE¼ NE¼, W. Pt. NE¼ NE¼, SW¼ NE¼, N½ NW¼ SE¼, & Pt. S½ NW¼ SE¼	28-35-5
80.00	W½ NW¼	33-35-5

Acres	Description	Sec.T.R.
80.00	SW¼ SW¼ & NW¼ SW¼, less surface rights to town lots & surface rights to 50.95 acres	4-36-5
62.72	Frl. E½ of SE¼, & Pt. Lot 1 of NE¼, except surface rights to 1.5 acres	5-36-5
108.20	Lot 1 SW Frl¼, & W½ SE Frl¼, less surface rights to town lots	6-36-5
302.34	Pt. NW¼, Pt. NE¼, Pt. SW¼, & Pt. SE¼, less surface rights to town lots & surface rights to Power Plant site	7-36-5
103.70	E½ SE¼, & SW Frl¼ of SE Frl¼, less surface rights to town lots	8-36-5
420.00	Pt. W½, Pt. W½ NE¼, & Pt. W½ SE¼, less surface rights to town lots and surface rights to 110.15 acres deeded	9-36-5
280.00	N½ NW¼, N½ NE¼, SW¼ NE¼, & W½ SE¼, less 40.19 acres surface rights deeded	16-36-5
400.36	N½, SW¼, N½ SE¼, & SE¼ SE¼	17-36-5
93.16	NW Frl.¼, & W½ SE Frl¼, less surface rights to 44.20 acres	18-36-5
156.88	Pt. SE¼	19-36-5
294.37	NW¼ & Lot 2 SW¼ & Pt. NE¼ NE¼	30-36-5
80.00	SE¼ SW¼, & SW¼ SE¼	12-38-5
114.00	Pt. NE¼	24-38-5
60.00	Pt. NE¼	8-38-6
160.00	SW¼ NE¼, NW¼ SW¼, & N½ SW¼ (140 acres in Ste. Genevieve Co.)	9-38-6
240.00	That part of S½ pf Section which is located in St. Francois Co.	23-38-6
138.40	West part, less 1.70 acres surface rights,	Sur. 80-37-5
1.00	Part Lot 1	Sur. 2969-35-5
67.40	Lot 123, Surface rights only,	Sur. 2969-35-5
89.50	Lot 5	Sur. 3092 & 1864-36-5
7,215.76	Acres - total.	

Lots 4, 5, 8, 17, Blk. 1; Lot 7, Blk. 2; Lot 15, Blk. 3; Lot 2, Blk. 4; Lot 2 & Pt. Lot 3, Blk. 5; Lot 15, Blk. 6; Lot 4, Blk. 7; Lots 2, 8 & 11, Blk. 9; Lot 16, Blk. 10; Pt. Lot 1 & Lots 9 & 10, Blk. 11; Pt. Lot 6, Blk. 12; Lot 8, Blk. 13; Lot 2, Blk. 15; Lots 7, 8 & 9, Blk. 17; Lot 3, Blk. 18; Lot 16, Blk. 19; Lots 1, 2, 4-7, Blk. 20; Lots 1-3, Blk. 21; Lots 6, 9 & 16, Blk. 22; Lots 4, 10, 11, 12 & 13, Blk. 23; Pt. Lot 8, Blk. 25; Lots 1 & 3, Blk. 27; Lots 4, 8 & 9, Blk. 29; Lots 5 & 16-C, Blk. 30; Lots 8 & 10, Blk. 31; and Lots 2, 3, 4, 7 & 8, Blk.36, Flat River.

Lots 1-5 & 8-14, Blk. 1; Lots 4 & 10-14, Blk. 2; Lots 4-6, 12 & 13, Blk. 3; Lots 1-4, Blk. 6; Lots 1-4, Blk. 7; and Lots 1-8, Blk. 8, New Town.

Lots 2, 4, 5, 9 & 11-15, Blk. 1; Lots 1-4 & 6-8, Blk. 2; Lots 3-7, 9, 10 & 12-14, Blk. 18; Lots 1 & 5-8, Blk. 28; Lots 1-5 & 8, Blk. 29; Lots 1-6 & 8, Blk. 30; Lots 3-5, Blk. 31, Lots 1-4, Blk. 32; Lots 1-3, Blk. 33; Lots 1-8, Blk. 34; Lots 1, 3 & 5-8, Blk. 35; and Lots 1 & 5-8, Blk. 36, Mitchell.

Lots 1-8, Blk. 1; Lots 1-6 & 8, Blk. 2; Lots 1-7, Blk. 3; Lots 1-8, Blk. 4; Lots 1-8, Blk. 5; Lots 1-8, Blk. 6; Lots 1-8, Blk. 7; Lots 3-10, Blk. 8; Lots 1 & 2, Blk. 9; Lots 1-8, Blk. 11; Lots 1-8, Blk. 12; Lots 1, 2, 7 & 8, Blk. 14; Lots 2, 3 & 5-7, Blk. 15; Lots 2-4, Blk. 16; Lots 5-8, Blk. 17; Lots 1-8, Blk. 19; Lots 1-8, Blk. 20; Lots 4, 7 & 8, Blk. 21; Lot 1, Blk. 22; Lots 2, 3 & 5-7, Blk. 23; Lots 1-4, Blk. 24; Lot 8, Blk. 25; Lots 2-4, 6, 7 & 9-11, Blk. 26; Lots 1-7 & 9-12, Blk. 27; Lots 1-6, 8 & 9, Blk. 28; Lot 8, Blk. 29; Lots 5-8, Blk. 30; Lots 4, 8 & 9, Blk. 31; Lots 1-4, Blk. 32; Lots 1-6, 9 & 12, Blk. 33; Lot 3, Blk. 34; Lot 5, Blk. 38; Lots 3, 4, 6, 7 & 9-12, Blk. 39; Lots 1 & 3-11, Blk. 40; Lots 3, 4, 6, 7, 11, 12, 15 & 16, Blk. 41; Lot 1, Blk. 42; Pt. Lot 1 & Lots 4-6, Blk. 43; Lot 8, Blk. 45; Lots 2 & 4, Blk. 46; Lots 1-3, Blk. 47; Lot 1, Blk. 49; Lots 1-8, Blk. 52; Lots 1-8, Blk. 53; Lots 1-5, 7 & 8, Blk. 54; Lots 1-9, Blk. 57; Lots 1-10, Blk. 58; and Lots 1-3, Blk. 59, Doe Run.

Lots 1 & 2, Blk. 7, Hamilton's Subdivision.

Lot 5, Blk. 4, Morris & Swink's Subdivision.

Lots 7-12, Blk. 56, DeLassus.

Lots 4 & 5, Blk. 1; Lots 6-8, Blk. 2; Lot 10, Blk. 3; Lot 9, Blk. 4; Lots 5 & 6, Blk. 5; Lots 5 & 6, Blk. 6; Lots 6-9, Blk. 8; Lots 7-11, Blk. 9; Lots 4 & 5, Blk. 10; Lots 3, 6, 9 & 10, Blk. 11; Lot 2, Blk. 12; Lots 2-6 & 8-12, Blk. 13; Lots 1, 2, 4 & 8, Blk. 14; and Lots 1-4, Blk. 15, Esther.

Lots 9-11, Blk. 1; Lots 1, 5 & 8, Blk. 2; Lots 3, 10, 14, 29 & 30, Blk. 4; Lots 8, 15, 16, 18, 23, 24, 27, 28 & 32, Blk. 5; Lots 14 & 16, Blk. 6; Lots 1, 3, 5 & 6, Blk. 7; Lot 3, Blk. 8; Lots 2 & 14, Blk. 11; and Lots 7-10, 12-15, Pt. 17, Lot 21, N. E. Pt. 18, S. W. Pt. 18 & Lots 22, 25, 26 & 29, Blk. 12, Elvins.

Lots 5, 6, 8, 11 & 15-18, Blk. 75; Lots 5-7, 10, 17 & 18, Blk. 76, Doe Run Lead Company's 1st Addition to Elvins.

Lots 1-5, Blk. 71; and Lots 1-8, 15 & 16, Blk. 73, Doe Run Lead Company's 3rd Addition to Elvins.

Lots 1, 2, 6 & 7, Blk. 100; and Lots 1 & 2, Blk. 200, West Elvins.

Lots 4-6, Blk. 8, Setz's Addition to Elvins.

Lots 18, 27 & 36, Blk. 2; Lot 20, Blk. 6; Lots 2, 6-13, 15, 16, 18 & 19, Blk. 17; Lots 1, 2, 7-17, 19, 20, 20-A & 21-26, Blk. 18; Lots 1, 3, 11, 12 & 23, Blk. 19; Lots 1, 6-13, 16-20, 22, 23, 25, 31 & 33, Blk. 20; Lots 1-11, Blk. 50; Lots 1-25, Blk. 51; Lot 35, Blk. 2; Lot 18, Blk. 6; and Lot 4, Blk. 18, Rivermines.

Lots 3, 5, 8, 10, 13, W½ 15, 23-26 & 28-30, Blk. 74, Doe Run Lead Company's 1st Addition to Rivermines.

Lots 1, 2, 8 & 9, Blk. F; Lot 9, Blk. H; and Lots 5 & 6, Blk. I, Bennett's Plat of Leadington.

PERSONAL PROPERTY

1275	Steel 2½-ton Mine Cars
4	2½-ton Mine Locomotives
1	3-ton Locomotive
1	6-ton Locomotive
5	8-ton Locomotives
1	10-ton Locomotive
6	13-ton Locomotives
6	St. Joe Power Shovels
2	Thew Power Shovels
1	Conway Power Shovel
1	Keystone Power Shovel
10	Ellison Prospect Drills
3	Sullivan Prospect Drills
1	Star Churn Drill
155	Air Mine Drills
1	Chambersburg Air Hammer
1	L. & S. Lathe
1	LeBlond Lathe
1	Universal Miller
3	Power Drills -- 16", 18" & 26"
1	24" Single Surfacer
1	Grindstone
1	Wood Surfacer
1	Wood Lathe
3	Cutting Torches
35	Crank Jacks
1	Portable Grease Gun
14	Chain Blocks, 1-5 ton
2	Electric Breast Drills
2	Track Bonders
1	Anvil
1	Machinist's Vise
4	Adding Machines
5	Calculating Machines
19	Office Chairs
12	Desks
2	Steel Safes
19	Tables
16	Telephones
14	Electric Fans
14	Letter Files
1	Billing Machine
2	Typewriters
2	Clocks
2	Stoves
49	Cabinets
2	Blue Print Machines
1	Photostat Machine
4	Surveying Levels
7	Surveying Transits
4	Surveying Compasses
1	Telephone Switchboard
1	Complete Lot of Household Furnishings in Club House at Rivermines
3	150 H. P. Motors
1	85 H. P. Motor
2	75 H. P. Motors
1	60 H. P. Motor
3	50 H. P. Motors
1	38½ H. P. Motor
5	5 H. P. Motors
1	10 H. P. Motor
5	20 H. P. Motors
3	15 H. P. Motors
1	7½ H. P. Motor
3	12 H. P. Hertner M.G.Sets
1	5 H. P. Westg. M. G. Set
1	Buick Sedan, 1929
1	Ford Coach, 1930
1	Pontiac Coach, 1927
2	Ford Roadsters, 1928 & 1929
2	Chevrolet Coaches, 1927 & 1929
1	Chevrolet Truck, 1929
1	GMC 5-ton, 1929
1	Fordson Tractor
3	25 KVA Westinghouse Transformers
3	7½ KVA " "
3	30 " " "
1	50 " General Electric "
2	50 " Moloney Transformers
2	100 " " "
1	200 " " "
2	150 " " "
1	20000 v. G. E. "
2	Ottumwa Hoists
4	Sturtevant Blowers
1	Lidgerwood Hoist
1	Air Hoist
3	Hand Operated Hoists
3	Sheave Wheels
4	Bowser Oil Tanks
16,337	Tons Pig Lead
150	Tons Concentrates

Cash, $2,668.89

LIST OF BOOKS OF THE DOE RUN LEAD COMPANY

Stock Certificate Book and stubs from beginning of company.
Stock Ledgers " " " "
Minute Books " " " "
4 General Ledgers (bound)
3 General Ledgers (loose leaf)
3 General Journals (bound)
12 Books of Journal Vouchers (loose leaf)
12 Cash Books (bound)
3 Books of Financial Statements (loose leaf)
3 Distribution of Accounts Payable (bound)
4 Voucher Registers (bound)
2 Voucher Registers (loose leaf)
1 Bill Register (loose leaf)
1 Notes Payable (bound)
3 Dividend Books (bound)
House Rent Ledger, Lease Rent Ledger and Pension Roll
Accounts Payable Vouchers, November, 1886, to date, except August 17, 1917 to December 31, 1920.
Journal Vouchers - not bound, March, 1911, to August, 1917.

It is further shown that the corporation has no unexecuted contracts, nor outstanding engagements not fully satisfied or canceled; that the following are the names of alleged claimants or creditors:

Wm. H. Anthony, James Barnes, John A. Bay, Andrew W. Bennett, George Bible, Felix S. Campbell, William Cartee, Delbert Francis, Chas. A. Delcoure, Gertrude Dix, W. A. Forsyth, W. H. Gamblin, Walter Gray, James Jolley, John F. Kemp, Wm. C. Kindle, Joe LaChance, Sterling LaChance, Robert McDaniel, Noah Marler, Joseph F. Martin, John Mills, Wm. Montgomery, Mary Moore, John P. Mouser, Wm. L. Porter, Marion S. Rhodes, Geo. Skaggs, William Smith, Carrie Whiteaker, Susan Wilfong, Henry Wishon, James Wright, all of whom are non-residents of said St. Francois County, Missouri;

And Martin Alexander, Geo. W. Amberg, Harry H. Barton, Ernest A. Blankenship, Jesse L. Boring, Walter C. Bone, John Buff, Raymond Byers, Charles F. Chapman, Curtis Colson, Willis P. Crawford, Lawrence A. Crouch, John Degonia, Joe L. Deremo, R. C. Dickey, Zeb T. Dillard, Lee Dix, John W. Edgar, Fred (Ferd) Fingers, Charles E. Fortner, Mary Frye, Carrie Henderson, C. L. Hillman, Jacob Cleveland Hovis, Phillip Jarrette, James Jolley, Charles A. Jones, Pleasant C. Keith, Charles Klesch, William A. Knowles, Raymond LaBrot, Glenwood Langley, Joseph Frank Lawson, Edward Paul Leonard, William Ira Lincoln, Charles A. Marler, Joseph F. Martin, Benjamin F. Mintner, Owen E. Murry, Emmett K. Ragsdale, Betty Jane Reed, Madison Reese, Clyde Revelle, R. L. Roberts, Ben Sales, Henry Schwent, Moses Sebastian, John F. Shelton, Doley Sumpter, Lawrence Thurman, Henry Frank Umfleet, Howard Underwood, Grover Clarence Walsh, Paul C. Warren, Walter L. Warwick, Chris Weiss, Bert White, Jess Wildman, Caria Williams, Joe Williams, Lee Willis, all of whom are residents of said St. Francois County, Missouri.

It is further shown to the Court that on the 3rd day of January, 1936, a special meeting of the stockholders of said corporation, duly called and held at its general business office in the City of Bonne Terre, aforesaid, for the purpose, among other things, of voting upon the adoption of a resolution favoring a dissolution of said The Doe Run Lead Company; that at said meeting a resolution

favoring such dissolution was duly presented for the vote of the stockholders of said corporation, and the same was duly adopted by at least ninety per cent. of all the issued and outstanding shares of the capital stock of said corporation, to-wit, by the holders of one hundred per cent. of all said issued and outstanding capital stock; that the result of said vote was by the inspectors, shareholders (not directors) of said corporation, theretofore appointed by the President of said corporation and duly sworn, as required by law, to canvas and count the vote so cast, on the same day duly certified to the President of said corporation the vote so cast on said resolution, who thereupon and on the same day presented the same to the Board of Directors of said corporation at a special meeting of said Board, duly called and held, in said City of Bonne Terre on said 3rd day of January, 1936; and that at said meeting of said Board, on motion duly made, seconded, voted upon and carried by the unanimous vote of all the members present and constituting a quorum of said Board, it was ordered and directed that suit be filed, pursuant to the statutes of Missouri, for the dissolution of said The Doe Run Lead Company.

Therefore, it being shown to the Court that petitioner has in all things complied with the Statutes of Missouri governing the dissolution of corporations, and particularly the provisions under the ninety per cent. clause governing the vote of stockholders on the question of dissolution, as the same is found in Section 4563, Revised Statutes of Missouri, 1929, and no cause being shown against said dissolution;

It is therefore by the Court ordered, decreed and adjudged that the said The Doe Run Lead Company, a corporation, be and the same hereby is dissolved. It is further ordered that the President and directors aforesaid of said corporation shall, as trustees of the corporation, take charge of the assets of said corporation and administer same in the manner and with all the rights and powers conferred upon them, as such, under the provisions of the Statutes of Missouri in such cases made and provided.

STATE OF MISSOURI, }
COUNTY OF ST. FRANCOIS. } SS.

I, F. P. Graves, Clerk of the Circuit Court within and for the County of St. Francois, State of Missouri, do hereby certify that the within and foregoing is a true and correct copy of the decree of dissolution entered in the matter of the petition of The Doe Run Lead Company, a corporation, for a dissolution decree, as fully as the same is found and remains of record in my office.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said Circuit Court this 8th day of February, A. D. 1936.

F. P. Graves
Clerk of the Circuit Court.

RE: THE DOE RUN LEAD CO.

DECREE OF DISSOLUTION

RECEIVED

FEB 12 1996

Secretary of State

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STATE OF MISSOURI }
COUNTY OF ST. FRANCOIS } SS.

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IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said Circuit Court this 8th day of February, A. D. 1936.

F. P. Graves,
Clerk of the Circuit Court.

(SEAL)

RECEIVED
FEB 12, 1936
Dwight H. Brown
Secretary of State.

Doe Run Lead Company
Last report filed 8/1/1917
Records Div Aff Div
filed Jan 12/18

State of Missouri

Judith K. Moriarty, Secretary of State

Corporation Division

Application for an Amended Certificate of Authority for a Foreign Corporation

(Submit in duplicate with filing fee of $20.00)

The below corporation, relating to amending its certificate of authority of Foreign Corporation, does hereby state:

(1) Its name is: St. Joe Minerals Corporation

and is incorporated in the State of: New York; and it was qualified in the State of Missouri on July 22, 1981 (month/day/year).

FILED
AND AMENDED CERTIFICATE OF AUTHORITY ISSUED
APR 20 1994
Judith K. Moriarty
SECRETARY OF STATE

(2) By appropriate corporate action on: April 4, 1994 (month/day/year), the corporation:

(1) Changed its corporate name to: The Doe Run Resources Corporation

Name it will use in Missouri if new name not available: Not applicable

(2) Changed its period of duration to: Not applicable

(3) Changed the state or country of its incorporation to: Not applicable

(3) There is attached hereto a Certificate of the Secretary of State of the State of New York relating to the amendment(s), set forth in item 2 above and showing that the Corporation is in existence and in good standing in said State.

(4) The effective date of this document is the date it is filed by the Secretary of State of Missouri, unless you indicate a future date, as follows: Not applicable
(Date may not be more than 90 days after the filing date in this office)

In affirmation thereon, the facts stated above are true.

	Secretary	April 18, 1994
(Authorized signature of officer or chairman of the board)	(Title)	(Date of signature)

Justin W. D'Atri

Attached is a current certificate attesting to the change, duly authenticated by the secretary of state or other official having custody of corporate records in the state or country of incorporation.

Corp. #45 (1-93)

State of New York
Department of State

ss:

I hereby certify, that the certificate of incorporation of THE DOE RUN RESOURCES CORPORATION was filed 04/02/1981, under the name of FLUOR ACQUISITION CORPORATION, with perpetual duration, and that I have made a diligent examination of the index of corporation papers filed in this Department for a certificate, order, or record of a dissolution, and upon such examination, I find no such certificate, order or record, and that so far as indicated by the records of this Department, such corporation is a subsisting corporation.

A Certificate of Amendment of FLUOR ACQUISITION CORPORATION, changing name to ST. JOE MINERALS CORPORATION, was filed 08/03/1981.

A Certificate of Amendment of ST. JOE MINERALS CORPORATION, changing name to THE DOE RUN RESOURCES CORPORATION, was filed 04/04/1994.

***

Witness my hand and the official seal of the Department of State at the City of Albany, this 15th day of April one thousand nine hundred and ninety-four.

Secretary of State

199404180181

No. F00232995

STATE OF MISSOURI

SEAL OF THE SECRETARY OF STATE
MISSOURI

Judith K. Moriarty
SECRETARY OF STATE

CORPORATION DIVISION
AMENDED CERTIFICATE OF AUTHORITY
OF A FOREIGN CORPORATION

WHEREAS,

THE DOE RUN RESOURCES CORPORATION

FORMERLY,

ST. JOE MINERALS CORPORATION

INCORPORATED UNDER THE LAWS OF THE STATE OF NEW YORK AND NOW IN EXISTENCE AND IN GOOD STANDING IN SAID STATE, AND QUALIFIED TO TRANSACT BUSINESS IN MISSOURI HAS DELIVERED TO ME, DULY AUTHENTICATED EVIDENCE OF AN AMENDMENT TO ITS ARTICLES OF INCORPORATION AS PROVIDED BY LAW, AND HAS, IN ALL RESPECTS, COMPLIED WITH THE REQUIREMENTS OF THE THE GENERAL AND BUSINESS CORPORATION LAW OF MISSOURI, GOVERNING AMENDMENTS TO THE ARTICLES OF INCORPORATION OF FOREIGN CORPORATIONS, AND IN ACCORDANCE THEREWITH ISSUE THIS CERTIFICATE OF AMENDMENT.

IN TESTIMONY WHEREOF, I HAVE SET MY HAND AND IMPRINTED THE GREAT SEAL OF THE STATE OF MISSOURI, ON THIS, THE 20TH DAY OF APRIL, 1994.

THE GREAT SEAL OF THE STATE OF MISSOURI
UNITED WE STAND, DIVIDED WE FALL
SALUS POPULI SUPREMA LEX ESTO
MDCCCXX

Judith K. Moriarty
Secretary of State

$20.00

S.O.S. #30

THE DOE RUN COMPANY

SUITE 300
1801 PARK 270 DRIVE
ST. LOUIS, MO 63146
FAX 314-453-7177

LOUIS J. MARUCHEAU
VICE PRESIDENT LAW
AND ASSISTANT SECRETARY
314-453-7150
lmarucheau@doerun.com

RECEIVED
AUG 04 2004
BY:

August 3, 2004

VIA FEDERAL EXPRESS

Michael P. Massey, Esq.
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region VII
901 North 5th Street
Kansas City, KS 66101

Re: The Doe Run Lead Company

Dear Mike:

The Doe Run Resources Corporation, in its response dated December 5, 2003 to EPA Region VII's request for information under Section 104(e) of CERCLA about the Elvins Site (also known as the Rivermines Site), provided certain information about ownership of the mill at Elvins. This letter is to provide you with additional documents that will assist in evaluating the position of The Doe Run Resources Corporation regarding responsibility for actions of The Doe Run Lead Company. Enclosed are the following:

1. The opinion of the Supreme Court of Missouri in which the court held that an attempted dissolution of The Doe Run Lead Company was invalid. In Re Doe Run Lead Co., Doe Run Lead Co., et al. v. Maynard et al.; In Re Doe Run Lead Co., Doe Run Lead Co., et al. v. Holmes et al., 223 S.W. 600 (Mo. 1920).

2. The minutes of the St. Joseph Lead Company (predecessor to The Doe Run Resources Corporation) for March 12, 1936 where the St. Joseph Lead Company Board of Trustees approved, ratified, and confirmed the Plan of Dissolution of The Doe Run Lead Company and passed a resolution that stated in part:

> [T]hat the St. Joseph Lead Company hereby accepts the transfer to it of all of the assets of The Doe Run Lead Company and assumes all of the liabilities of The Doe Run Lead Company, as such assets and liabilities were immediately after entry of the decree of dissolution by The Doe Run Lead Company on February 8, 1936.

40307062
Superfund

3. The minutes of The Doe Run Lead Company Special Meeting of Stockholders dated January 3, 1936, Special Meeting of the Directors of The Doe Run Lead Company dated January 3, 1936, and Special Meeting of the Board of Directors of The Doe Run Lead Company dated December 21, 1936.

4. The Memorandum of Mine and Mill Operations of the St. Joseph Lead Co. for the Year 1934 and The Memorandum of Mine and Mill Operations of The Doe Run Lead Company for the Year 1934 which demonstrate the careful delineation of the separate operations of the St. Joseph Lead Co. and its subsidiary, The Doe Run Lead Company, and the fact that the Rivermines mill was operated by The Doe Run Lead Company, not the St. Joseph Lead Company. 1934 was the last year that the Rivermines mill operated. Relevant portions of additional reports of operations of The Doe Run Lead Company were submitted by The Doe Run Resources Corporation with its response to the Elvins CERCLA Section 104(e) request for information.

If you have any questions about the enclosed documents, please call at the above number. Also, please advise if there are additional documents that you wish to see.

Sincerely,

Louis J. Marucheau
Vice President Law

encl.

cc: D. Vornberg (w/o encl.)

LEXSEE 223 SW 600

DOE RUN LEAD COMPANY and ST. JOSEPH LEAD COMPANY v. SAMUEL R. MAYNARD et al., Appellants. DOE RUN LEAD COMPANY and ST. JOSEPH LEAD COMPANY v. ROBERT HOLMES et al., Appellants.

[NO NUMBER IN ORIGINAL]

SUPREME COURT OF MISSOURI

283 Mo. 646; 223 S.W. 600; 1920 Mo. LEXIS 265

July 12, 1920, Decided

PRIOR HISTORY: [***1] Appeal from St. Francois Circuit Court. -- Hon. Peter Huck, Judge.

DISPOSITION: Reversed.

CASE SUMMARY:

PROCEDURAL POSTURE: In consolidated appeals involving respondent petitioning corporation's proceeding for dissolution under Mo. Rev. Stat. §§ 2996-3000 (1909), appellant objecting minority shareholders (objectors) sought review of the judgment of the St. Francois Circuit Court (Missouri), which entered a decree of dissolution. Respondent majority shareholder of the corporation consented in the petition for dissolution.

OVERVIEW: The corporation and its majority shareholder were both engaged in lead mining. The holders of more than two-thirds of the corporation's stock adopted a resolution authorizing the filing of a proceeding for dissolution for the purpose of consolidating with the majority shareholder. The objectors contended that the resolution authorizing the dissolution was void because it contemplated the purchase by the corporation of its own capital stock. The majority shareholder argued that the objectors were estopped to object to the decree of dissolution because they stood by and made no objection to the proposed consolidation and merger. The circuit court entered an order dissolving the corporation and denied the objectors' motions for new trial and in arrest of judgment. On appeal, the court reversed the judgment of dissolution. The objectors were not estopped to question the dissolution proceedings because the majority shareholder was not misled to its hurt. The majority shareholder acted in self-interest and to the prejudice of the objectors as minority shareholders, and the dissolution and consolidation worked a taking upon the objectors under Mo. Const. art. II, § 20.

OUTCOME: In the objectors' consolidated appeals involving the corporation's proceeding for dissolution, the court reversed the judgment of the circuit court, which entered a decree of dissolution.

CORE TERMS: stockholder, dissolution, stock, consolidation, dollar, decree, capital stock, estoppel, dissenting stockholders, decree of dissolution, dissolve, shares of stock, good faith, outstanding, par value, merger, dissolved, mining, civil action, private property, dissolution proceeding, consolidate, aggrieved, equitable, proxy, manufacturing, corporators, bona-fide, effected, pais

LexisNexis(R) Headnotes

Administrative Law > Judicial Review > Reviewability > Standing
Civil Procedure > Justiciability > Standing > General Overview
Civil Procedure > Judgments > General Overview
[HN1] Mo. Rev. Stat. § 1727 (1909) provides in part: There shall be in the state but one form of action for the enforcement or protection of private rights, and redress or prevention of private wrongs, which shall be denomi-

nated a civil action. Mo. Rev. Stat. § 2038 (1909), relating to appeals, provides in part: Any party to a suit aggrieved by any judgment of any circuit court in any civil cause from which an appeal is not prohibited by the constitution may take his appeal from any final judgment in the case. Mo. Rev. Stat. § 2040 (1909) provides in part: No such appeal shall be allowed unless the appellant or his agent shall file his affidavit stating that the affiant believes that the appellant is aggrieved by the judgment or decision of the court. Mo. Rev. Stat. § 2090 (1909) defines a judgment as the final determination of the right of the parties in the action.

Civil Procedure > Trials > Jury Trials > Actions in Equity
Civil Procedure > Trials > Jury Trials > Right to Jury Trial
Estate, Gift & Trust Law > Trusts > General Overview
[HN2] If the issues joined entitle the parties to an ordinary judgment at law, then, under the constitution and laws of the state, the parties are entitled to a trial by jury; but if the issues tendered are equitable in their nature and call for equitable relief, then the cause is triable before the chancellor.

Contracts Law > Defenses > Equitable Estoppel > General Overview
[HN3] All of the following elements must actually or presumably be present in order to an estoppel by conduct: There must have been a false representation or a concealment of material facts; the representation must have been made with knowledge of the facts; the party to whom it was made must have been ignorant of the truth of the matter; it must have been made with the intention that the other party should act upon it; and the other party must have been induced to act upon it.

Contracts Law > Defenses > Equitable Estoppel > General Overview
[HN4] In order to make good a plea of estoppel, it is necessary both to allege and to prove that one has been misled to his hurt.

Business & Corporate Law > Corporations > Directors & Officers > Management Duties & Liabilities > General Overview
Business & Corporate Law > Corporations > Dissolution & Receivership > Involuntary Dissolution
Business & Corporate Law > Corporations > Shareholders > Appraisal & Dissent Rights > Right to Dissent > Procedures
[HN5] Upon the adoption of a resolution and the filing of a proper petition, the Mo. Rev. Stat. § 2996 provides that a corporation may be dissolved by a judgment or decree of the circuit court. Section 2996 does not give to the majority an absolute right to procure a decree of dissolution, nor does it confer upon the minority an absolute power to prevent it. Neither does § 2996 vest in the majority a right, under color of dissolution proceedings, to compel the minority to take stock in a new corporation in lieu of its stock in the former one, nor has the majority a right to fix the price which shall be paid for the stock of the dissenting stockholders, and compel them to accept it. Stock is private property, and private property cannot, without the owner's consent, be taken for private use by any majority, however great, nor by the payment of any price, however large.

Constitutional Law > Bill of Rights > Fundamental Rights > Eminent Domain & Takings
[HN6] No private property can be taken for private use, with or without compensation, unless by the consent of the owner, except for private ways of necessity, and except for drains and ditches across the lands of others for agricultural and sanitary purposes, in such manner as may be prescribed by law. Mo. Const. art. II, § 20.

Business & Corporate Law > Corporations > Dissolution & Receivership > General Overview
Business & Corporate Law > Corporations > Shareholders > Appraisal & Dissent Rights > General Overview
Business & Corporate Law > Mergers & Acquisitions > Mergers > General Overview
[HN7] Consolidation and dissolution of a corporation may be effected as provided in Mo. Rev. Stat. §§ 2996-3000, 3360, 3362, and not otherwise. When the organic or statutory law specifies the powers a given corporation may exercise, or the property it may hold, such specification by implication excludes all other powers or rights, except such incidental or subordinate rights and powers as may be necessary to an exercise of the powers and rights expressly given.

Business & Corporate Law > Foreign Businesses > General Overview
[HN8] Mo. Rev. Stat. § 3037 (1909) in express terms provides that foreign corporation doing business in the state shall be subject to all the restrictions imposed by state laws upon domestic corporations of like character, and shall have no other or greater power.

Business & Corporate Law > Corporations > Dissolution & Receivership > Termination & Winding Up > Distribution of Assets > Unlawful Asset Distributions
Business & Corporate Law > Corporations > Shareholders > Shareholder Duties & Liabilities > General Overview
Business & Corporate Law > Mergers & Acquisitions > Mergers > General Overview
[HN9] Whether or not a decree of dissolution should be granted in a given case depends upon the simple question of the good faith of the proceeding, and that is a question to be determined upon the facts of each particular case. A determination of the question of good faith does not necessarily involve an inquiry into the motives of either group of stockholders with reference to the effect of dissolution upon themselves or upon the other group. It must appear upon the face of the record that the suit for dissolution is such a suit as is contemplated by state statutes; that is, that the dissolution sought must be a bona-fide dissolution, intended to culminate in a cessation of corporate life and a distribution of corporate assets. Anything else is a fraud upon the law which the courts will not countenance.

HEADNOTES

1. **CORPORATION: Dissolution: Appeal.** A proceeding for the dissolution of a corporation, brought by it against dissenting stockholders, in which evidence is heard and considered, is a civil action, involving the exercise of judicial power, and from a judgment of dissolution an appeal is not prohibited by the Constitution, and such dissenting stockholders are, therefore, under the statute, entitled to appeal.

2. **CORPORATION: Dissolution: Appeal: Final Judgment.** A judgment by which the court adjudges and decrees that the corporate charter and franchise of a corporation be surrendered and cancelled, that its corporate existence be forever ended and that its officers as statutory trustees take charge of its assets and affairs and administer them, is a final judgment, from which an appeal lies.

3. **CORPORATION: Dissolution: Appeal: Aggrieved Party.** Appellant is not required, in order to be entitled to an appeal, to establish that his legal rights have been prejudiced by the judgment. The statute merely requires the affiant to state in the affidavit for an appeal that he "believes" the appellant is "aggrieved" by the judgment.

4. **CORPORATION: Dissolution: Pleading: Petition Only.** Although the statutes pertaining to the dissolution of a corporation provide for no pleadings except the petition, the code procedure is available for presenting in an orderly method issues of law or fact.

5. **CORPORATION: Dissolution: Civil Action: Legal or Equitable.** The nature of the issues determines whether the civil case is an action at law or a suit in equity. A suit to dissolve a corporation, brought by the company against dissenting stockholders, in which is involved the creation and administration of a trust and in which the corporation pleads estoppel *in pais* against the minority stockholders, is a suit in equity, because the issues call for equitable relief.

6. **CORPORATION: Dissolution: Estoppel: Knowledge: Inactivity.** Estoppel *in pais* does not arise from notice and inaction alone. A stockholder is not estopped to deny the legality of an attempted dissolution of a corporation by the fact that he knew a majority of its stockholders were scheming and planning to purchase its stock with the stock of another, and took no steps to stop them. The fact that some of the stockholders exercised their right to sell their stock and are making no complaint, and that the other company bought certain shares, it being neither alleged nor proven that it lost by the investment, does not affect the right of the dissenting stockholders to question the attempted dissolution.

7. **CORPORATION: Dissolution: Estoppel: Elements.** To constitute estoppel *in pais* there must have been (a) false representation or concealment of material facts, (b) made with knowledge of the facts, (c) to a party ignorant of their truth, (d) with the intention that the other should act upon it and (e) such other must have been induced to act upon it; and to be available it must be alleged and proven that such other has been misled to his hurt.

8. **CORPORATION: Dissolution: Discretionary Right: Stock in Another.** The statute (Sec. 2996, R. S. 1909) declaring that a "corporation may be dissolved by a judgment or decree of the circuit court" upon the adoption of a resolution by "the stockholders holding two-thirds in value of all the shares of stock" does not give to a majority of the stockholders an absolute right to a decree of dissolution, nor does it confer upon a minority an absolute power to prevent dissolution. Nor does said statute vest in the majority a right, under color of dissolution, to compel the minority to take stock in a new corporation in lieu of their stock.

9. **CORPORATION: Dissolution: Fixing Price of Stock.** A majority of stockholders of a corporation, desiring dissolution, do not have the right to fix the price of the stock of the dissenting stockholders, or to compel them to accept it. The stock belonging to them is their private property, and private property (with certain constitutional exceptions) cannot, without the consent of the owner, be taken for private use by any majority, however great, nor by the payment of any price, however large.

10. **CORPORATION: Dissolution: Consolidation With Another: Payment in Stock.** Where the purpose of the majority of the stockholders of a solvent lead-mining corporation is to effect a consolidation with another, and to effect the consolidation by issuing to all the stockholders stock in the other on fair terms, or to pay to those who will not come in a fair value for their shares, dissolution cannot be effected against the consent of dissenting stockholders. That would not be a real dissolution, but only a pretended dissolution. Minority stockholders cannot be compelled to surrender their stock and accept stock in another company in lieu of it; nor can they be compelled to sell their stock, or to surrender it for money, except upon a real dissolution, which, under the statutes, implies a sale of the assets, the payment of its debts, and the distribution of the proceeds among the stockholders.

11. **CORPORATION: Dissolution: Consolidation With Another: Mining Company.** A lead-mining corporation, even by unanimous action of its stockholders, cannot effect a consolidation with another lead-mining corporation by selling all its stock to the other and then dissolving itself. The statute (Sec. 3360, R. S. 1909) declares the public policy of the State and limits the right of consolidation to corporations organized solely for manufacturing purposes, and a lead-mining company is not such a corporation. And the rule is the same where the company seeking to dissolve itself and to consolidate with the other is a domestic corporation and the other is a foreign corporation.

12. **CORPORATION: Dissolution: Good Faith.** The proceeding to dissolve a corporation must be in good faith, by which is meant that the dissolution must be intended to culminate in a cessation of corporate life and the distribution of its assets. Good faith does not involve an inquiry into the motive, but it does imply an inquiry into the purpose of the proceeding, as to whether that purpose is the one contemplated by the statute. An attempt by the stockholders of one company, who are stockholders and officers of another, to have the one absorb the other and thus bring about a consolidation of the two, for the purpose of lessening the amount of income taxes whose payment a separate existence makes necessary, by the indirect method of dissolving the one to be absorbed and issuing to its stockholders the stock of the other, is not a proceeding in good faith for dissolution. Such a proceeding is an attempt to use the law of dissolution as a law of consolidation, and is not therefore in good faith.

13. **CORPORATION: Dissolution: Status Quo.** The difficulty or impossibility of restoring the *status quo ante*, if brought about by an attempt to wrest the law from its purpose, and to violate its spirit while professing to observe its letter, does not commend itself to the indulgence of courts, or deserve their assistance.

COUNSEL: A. L. McCawley and Warner, Dean, McLeod & Langworthy for appellant.

(1) The resolution favoring dissolution, upon which this proceeding is based, and claimed to have been adopted at a special stockholders' meeting of Doe Run Lead Company was not adopted by stockholders holding two-thirds in value of all the shares of stock in the company. The charter and license of the St. Joseph Lead Company did not authorize the ownership and voting of stock of another corporation. (a) For the purposes of determining its right to own and vote stock in a Missouri corporation, the St. Joseph Lead Company could have no greater powers than a Missouri corporation. Sec. 3037, R. S. 1909; *Head v. Ins. Co., 241 Mo. 413*; State *ex rel. v. Cook, 171 Mo. 362*; *National Lead Co. v. Paint Store Co., 80 Mo. App. 271*. (b) The Constitution and statutes of Missouri, do not authorize a domestic business and manufacturing corporation to own and vote stock in another business and manufacturing corporation, but deny such right. Sec. 7, Art. 12, Mo. Constitution; Secs. 2990, 3346, R. S. 1909. The charter and laws under which a corporation [***2] is organized or licensed must be strictly construed. *Blair v. Perpetual Ins. Co., 10 Mo. 565*; *Matthews v. Skinker, 62 Mo. 331*; *Carroll v. Campbell, 108 Mo. 559*; *State ex rel. Light Co. v. Murphy, 130 Mo. 24*; *State ex rel. Crow v. Lincoln Trust Co., 144 Mo. 587*; *Watson Seminary v. County Court, 149 Mo. 70*; *Prairie Slough Club v. Kessler, 252 Mo. 434*; 1 Morawetz on Private Corporations, sec. 431; *Parsons v. Tacoma Co., 25 Wash. 492*; *Thomas v. Railroad Co., 101 U.S. 82*; *Schwab v. Potter Co., 194 N.Y. 415, 418*; *Franklin Co. v. Savings Bank, 68 Me. 45*. (c) Reference to other sections of the Missouri Statutes, shows conclusively that the Legislature did not intend to grant to manufacturing and business corporations the right to subscribe for, own and vote stock in other manufacturing and business corporations. R. S. 1909, secs. 3346, 1124, 3080, 3081, 3316. (d) It is contrary to the public policy of the State for one manufacturing and business corporation to subscribe for, own and vote stock in another business and manufacturing corporation. *Hanlon Millinery Co. v. Trust Co., 251 Mo. 574*; State *ex rel. v. Bank, 157 Mo. App. 563*; *Newland Hotel Co. v. Furniture Co., 73 Mo. App. 135*; State [***3] ex inf. v. *Lincoln Trust Co., 144 Mo. 562*; *Anglo-American Land Co. v. Lombard, (C. C. A.) 132 Fed. 736*; *Central Life Sec. Co. v. Smith, 236 Fed. 175*; *Franklin Co. v. Savings Bank, 68 Me. 43*; *People ex rel. Peabody v. Trust Co., 130 Ill. 269*; *Converse v. Emerson-Talcott & Co., 242 Ill. 619*; *Dunbar v. American Tel. & Tel. Co., 224 Ill. 22*; *Irvine v. Chicago Co., 200 Fed. 953*; *Central Railroad Co. v. Collins, 40 Ga. 628*; *Kean v. Johnson, 9*

N. J. Eq. 407; Black v. Del. & Raritan Canal Co., 24 N. J. Eq. 474; De La Vergne Co. v. Savings Inst., 175 U.S. 54. The cases of State ex inf. v. *Mo. Pac. Ry. Co., 237 Mo. 338*; State ex inf. v. *Mo. Pac. Ry. Co., 241 Mo. 1*, and *Tanner v. Lindell Ry. Co., 180 Mo. 1*, relied upon by respondents, are distinguishable from the case at bar. The exceptions mentioned in those cases are such as to make them really authorities in favor of appellant under the facts of this case. (e) At the time the resolution for dissolution was voted upon, the total paid up capital stock of The Doe Run Lead Company was $ 10,000,000, and the resolution therefore failed to carry by the requisite two-thirds vote. Sec. 2996, R. S. 1909, requires that the resolution favoring a dissolution [***4] must be voted by "stockholders holding at least two-thirds in value of all the shares of stock in said corporation." It is alleged that only 65,783 shares of stock were issued and outstanding, but the facts show that there were 100,000 shares of paid up and issued stock in said corporation, and that the resolution failed to carry. The certificate of the Secretary of State is conclusive. R. S. 1909, sec. 3356. This is admitted by respondents. The action of the company with reference to an alleged treasury stock account was illegal. *Chrisman-Sawyer Banking Co. v. Mfg. Co., 168 Mo. 646; Hazard v. Wight, 201 N.Y. 403.* The fact that certificates were not issued for a portion of these shares is immaterial. *Knapp v. George Knapp & Co., 127 Mo. 71; Williams v. Everett, 200 S. W. 1050; Armour Bros. Banking Co. v. St. Louis Natl. Bank, 113 Mo. 20; Schaeffer v. Mo. Home Ins. Co., 46 Mo. 250; Kimball v. Davis, 52 Mo. App. 207; Pacific Nat. Bank v. Eaton, 141 U.S. 234; Burr v. Wilcox, 22 N.Y. 555; Flour City Natl. Bank v. Shire 84 N.Y. Supp. 813; Field v. Pierce, 102 Mass. 261; U.S. Radiator Co. v. New York, 208 N.Y. 149; Carthage Natl. Bank v. Poole, 160 Mo. App. 143. (2)* This proceeding is not [***5] a bona-fide dissolution proceeding such as is authorized by the dissolution statute. The evidence shows that the purpose of this proceeding is to enable St. Joseph Lead Company to consolidate with Doe Run Lead Company, and compel the minority stockholders to sell out their interests to the majority stockholders at a price fixed by the majority. A dissolution statute cannot be made use of to accomplish such purposes. *In re Paine, 166 N. W. 1037; Theis v. Gas Light Co., 34 Wash. 23.* The facts of the two foregoing cases are almost identical with those in the case at bar, and in each of them a decree of dissolution was denied. *Riker & Son Co. v. United Drug Co., 79 N. J. Eq. 582; Ervin v. Oregon Ry. & Nav. Co., 27 Fed. 625*, cited with approval in *Tanner v. Lindell, 190 Mo. 20; Chicago Hansom Cab Co. v. Yerkes, 141 Ill. 335; Byrne v. Elec. Mfg. Co., 65 Conn. 336; Taylor v. Porter, 4 Hill (N.Y.) 143. (3)* The proposed dissolution is prejudicial to the minority stockholders. The dissolution statute requires the court to find that the proposed dissolution of the corporation is not prejudicial to the stockholders. R. S. 1909, sec. 2999. The men elected as directors of Doe Run Lead Company through [***6] the Chubb transaction were all interested directors dominated by St. Joseph Lead Company, and attempted to make a sale to the St. Joseph Lead Company upon its own terms. The transactions thus attempted to be consummated are illegal. *Kitchen v. Ry. Co., 69 Mo. 261; Ashton v. Penfield, 233 Mo. 427; Bent v. Priest, 86 Mo. 482; Bent v. Priest, 10 Mo. App. 556; Hill v. Coal Mining Co., 119 Mo. 23; Hannerty v. Theater Co., 109 Mo. 310; Michoud v. Girod, 45 U.S. (4 How.) 555; Jackson v. Ludeling, 88 U.S. (21 Wall.) 616; Symmes v. Union Trust Co., 60 Fed. 864; Mason v. Pewabic Mining Co., 133 U.S. 58. (4)* The appellant is not estopped from opposing the dissolution of Doe Run Lead Company. The present plan of dissolution is a new one for the purpose of evading taxes. There is no ground for invoking the doctrine of estoppel. *Harrison v. McReynolds, 183 Mo. 548; Keeney v. McVoy, 206 Mo. 57; Mills v. Railroad, 41 N. J. Eq. 9; Teele v. Granite Co., 224 Mass. 24*; State *ex rel. v. Bankers Trust Co., 157 Mo. App. 568.* (5) the dissolution statute as construed by the trial court is unconstitutional. The Doe Run Lead Company was organized in 1886, thirteen years before the dissolution statute was enacted. [***7] Laws 1899, pp. 116, 117. The statute should not be construed to be retroactive. *State ex rel. Parker v. Thompson, 41 Mo. 28; Bartlett v. Ball, 142 Mo. 35*; State *ex rel. v. Greer, 78 Mo. 188; Mutual Ins. Co. v. Flynn, 38 Mo. 483.* The stockholders have a contractual right to have the company continued during the entire period of its incorporation. 2 Cook on Corporations (6 Ed.), secs. 492, 494; *Tanner v. Lindell Ry. Co., 180 Mo. 16; Feld v. Roanoke Inv. Co., 123 Mo. 603; Luehrman v. Trust & Title Co., 192 S. W. (Mo.) 1032.* The statute was construed by the trial court to be retroactive and as so construed is unconstitutional. *Trustees of Dartmouth College v. Woodward, 4 Wheat. 520; State ex rel. Haeussler v. Greer, 78 Mo. 188; Farrington v. Tennessee, 95 U.S. 679; Clearwater v. Meredith, 68 U.S. 39; Covington Turnpike Co. v. Sandford, 164 U.S. 593; State Bank of Ohio v. Knoop, 57 U.S. (16 How.) 380; Wilmington Railroad v. Reid, 80 U.S. (13 Wall.) 264. (6)* The motion to dismiss the appeals should be overruled. (a) While the remedy by appeal was unknown at common law and rests upon statute, contained in the general code of civil procedure, authorizes an appeal in this case. Sec. 2038, R. [***8] S. 1909. The dissolution statute calls for a hearing and a judgment and decree and contemplates a judicial proceeding. Secs. 2996-3000, R. S. 1909. An appeal may be taken from a judgment under the dissolution statute. *In re Switzer, 201 Mo. 87; Nolan v. Johns, 108 Mo. 431*; State *ex rel. v. Lewis, 76 Mo. 370*; State *ex rel. v. Shelton, 238 Mo. 281; State v. Schneider, 47 Mo. App. 669; Stid v. Railroad, 211 Mo. 418*; 3 C. J. p. 318,

sec. 31. (b) Under the provisions of the Code of Civil Procedure, an appeal will lie from the judgment of a circuit court in a statutory proceeding, where the procedure is according to the course of common law trials, regardless of whether there is any specific right of appeal granted by such special statute. Sec. 2038, R. S. 1909. The mere fact that the proceeding is statutory does not prevent an appeal. Appeals are allowed in other statutory proceedings without a special provision for appeal. R. S. 1909, secs. 5425-5427, 5434, 2360, 2369, 2370-2381, 2535, 2559. The dissolution statute calls for a judicial determination of the question involved. *Luehrman v. Lincoln Trust & Title Co., 192 S. W. 1033.*

Boyle & Priest, Nagel & Kirby and Edward A. Rozier for [***9] respondent.

(1) This proceeding is not judicial, nor to determine litigated rights. The remedy for voluntary corporate dissolution provided by Secs. 2996-3000, R. S. 1909, is a special statutory proceeding, administrative, not judicial, in its nature. (a) The proceeding is not stricti juris either at law or in equity; it is not a "civil cause," but is a special statutory proceeding not known to the common law, and is intended to be summary, and the judgment final. The statute so shows. (b) The petition differs from that in ordinary civil causes. (c) The petition is not filed against anyone. (d) The procedure is "complete within itself." (e) No provision is made allowing an appeal. (f) The intention not to allow an appeal, and that the judgment be final appears. (g) The judgment is "self-executing." (2) The remedy by appeal, having been unknown to the common law, rests entirely upon statute, and the right to appeal exists only if and to the extent expressly provided by statute. State *ex rel. v. Woodson, 128 Mo. 514; Bussier's Adm. v. Sayman, 257 Mo. 308; Thomas v. Elliott, 215 Mo. 602*; 3 C. J. p. 316, sec. 29. (3) No appeal lies from the judgment of a court (even of general jurisdiction), [***10] in a special statutory proceeding not known to the common law, unless the right of appeal is expressly granted. *Ackerman v. Green, 201 Mo. 243; Lindell's Admr. v. Railroad, 36 Mo. 545*; State *ex rel. v. Schofield, 41 Mo. 41; Hannibal Railroad v. Morton, 20 Mo. 74; Wilson v. School Tp., 23 Mo. 417*; 3 C. J. 375, sec. 133; *Davenport v. Jones, 126 Pa. St. 273; Randolph v. City, 172 Ind. 510; Harvey v. Pealer, 63 Mich. 574; Marlowe v. Commonwealth, 142 Ky. 106; Sparrow v. Circuit Judge, 109 Mich. 272; Clancy v. Board of Comm., 150 Wis. 633; Tadlock v. Texas Comm., 21 Tex. 166.* Under above rule the courts of this State have held that statutory proceedings in a county court to disincorporate or incorporate a town, or to establish or vacate roads, are not judicial in nature, but are administrative or ministerial, hence no appeal lies unless expressly granted. *In re Town of Arcadia, 201 S. W. 359; Hall v. DeArmond, 46 Mo. App. 597; Aldridge v. Spears, 101 Mo. 406; St. Louis, I. M. & S. v. City of St. Louis, 92 Mo. 165. (4)* Moreover, special statutory proceedings not known to and not according to the course of the common law, are not "civil causes" within the meaning of general statutes which [***11] grant appeals in civil cases. 3 C. J. 325, sec. 42; *Wetherall v. Harris, 51 Mo. 65; Moore v. Buyer, 42 Ohio St. 312*; State *ex rel. v. Commrs., 31 Ohio St. 451; French v. Lighty, 9 Ind. 476; Barger v. Cochran, 15 Ohio St. 460; Moore v. Mayfield, 47 Ill. 167; Phillips v. Corbin, 25 Col. 62; Ex parte Pierce, 5 Me., 324*; Young v. Blaisdell, 138 Mass. 344-6; *Coates v. Woodward, 22 R. I. 562*; Valentine v. Boston, 20 Pick. (Mass.) 201; *In re Sanborn's Appeal, 107 Mich. 189.* The rule applies to statutory proceedings to dissolve business and municipal corporations, and to incorporate the latter. *Cady v. Mfg. Co., 48 Mich. 133*; Commonwealth v. Tradesmen Tr. Co., 237 Pa. St. 316-7; (5) There can be no question that at the common law no judicial remedy existed for the voluntary dissolution 201 S. W. 359-360; *Hall v. De Armond, 46 Mo. App. 596. Chamberlain v. Rochester Co., 7 Hun, (N.Y.) 557; In re Binghamton El. Co., 143 N.Y. 261*; Town of Arcadia, of a corporation. *State ex rel. Donnell v. Foster, 225 Mo. 171, at 192-3. (6)* The history or derivation of the Missouri dissolution statutes shows that the Legislature did not intend to grant a right of appeal in such proceedings. 3 Rev. Stat. N.Y. 1875, [***12] ch. 8, art. 3; N.Y. Code Civ. Pro., Title II, ch. 17, secs. 2419-31; In Matter of Hulbert Bros. Co., 160 N.Y. 14-15; *Cady v. Knit Goods Co., 48 Mich. 133; Chamberlain v. Rochester Co., 7 Hun, 558; In re Binghamton El. Co., 143 N.Y. 261. (7)* The appellants have no such immediate personal pecuniary or property interest or legal rights involved in this proceeding, nor are such rights determined, nor can appellants be so aggrieved by the judgment, as to entitle them to an appeal, within the meaning of the rule. (a) They have no property or contract right to have the corporate life continue. At the common law a mere majority of the members of a corporation had the power to surrender its franchise, and when the surrender was accepted by the sovereign the corporation was dissolved. No person has a property or vested interest in any mere rule of law. *Employers' Liabilities Cases, 223 U.S. 50.* (b) The common law did not recognize the existence of any implied contract between shareholders that the corporation could not be dissolved, except with the consent of all. On the contrary, the common law rule was that the majority could dissolve against the wishes of a minority, but when the majority [***13] sought to exercise said power fraudulently or unfairly as to the minority, a rule in equity protected the latter according to the circumstances of each case. 10 Cyc. 1302; 2 Cook (7 Ed.), sec. 629; 1 Morawitz on Priv. Corp. (2 Ed.) sec. 413; *Tanner v. Lindell Ry., 180 Mo. 1*; Treadwell v. Salisbury Mfg. Co., 7 Gray (Mass.) 393;

Bowditch v. Jackson Co., 76 N. H. 351; State *ex rel. v. Chilhowee W. M. Co., 115 Tenn. 296*; *Wilson v. Prop. of Central Bridge, 9 R. I. 590*; *Biedenkopf v. Ins. Co., 160 Iowa, 643*; 30 Harvard Law Review, p. 4; *Laumann v. Lebanon Railroad, 30 Pa. St. 46*; *Ervin v. Oregon Co., 27 Fed. 625*. Even if it be conceded (for argument only) that appellants had the right to insist on the corporation continuing, they cannot litigate such right in this proceeding. R. S. 1909, secs. 2996-3000; Sutherland on Stat. Const. (1 Ed.) sec. 392; (d) Appellants are not aggrieved by the judgment, nor have any issue to which they are adversary parties, nor any of their legal rights, been judicially determined. R. S. 1909, secs. 2996-3000; (8) The resolution "favoring dissolution" which was adopted at a special meeting of the stockholders of the Doe Run Lead Company on May 16, 1916, was adopted [***14] by stockholders holding more than two-thirds in value of all the shares of stock in said company, as required by the statute. R. S. 1909, sec. 2996. (a) The St. Joseph Lead Company had the power and the right to own and vote the shares of stock owned by it in The Doe Run Lead Company, and its vote upon the resolution favoring the dissolution is therefore valid. State ex inf. *Hadley v. Mo. Pac. Ry., 237 Mo. 347*; State ex inf. *Hadley v. Mo. Pac. Ry., 241 Mo. 12*; *Hill v. Nesbit, 100 Ind. 349*; 1 Cook on Corp. (7 Ed.) sec. 314. (b) The total issued and outstanding shares of Doe Run stock numbered 65,783, not 100,000; therefore the vote of 64,612 shares in favor of dissolution was cast by the persons holding more than two-thirds of the stock. (9) This proceeding is a bona-fide dissolution proceeding of the kind authorized by the Missouri statute. The uncontroverted evidence so shows. (a) The Missouri consolidation statute applies only to a consolidation of Missouri corporations, and neither said statute nor public policy forbid a foreign corporation licensed in Missouri, from acquiring and operating the property and business of a Missouri corporation. Sec. 3360, R. S. 1909; State ex. inf. [***15] v. *Cont. Tob. Co., 177 Mo. 3*. (b) The purpose of this proceeding is not (as Maynard's counsel contend), to "freeze out the minority stockholders." (c) This proceeding is an incidental step in the plan adopted by more than two hundred Doe Run stockholders, the primary purpose of which was to merge the two properties. (10) The dissolution is not prejudicial to the shareholders. Counsel misconceive the scope and purpose of this proceeding. It is merely to enable the state to ascertain whether its interests will be prejudiced by permitting the desired dissolution. (11) Maynard's conduct has estopped him from opposing the dissolution, as he seeks to do through his opposition to this proceeding. *Tanner v. Lindell Ry., 180 Mo. 1*; *Laumann v. Lebanon Railroad, 30 Pa. St. 42*; *Bowditch v. Jackson Co., 76 N. H. 351*; Cook on Corp. (7 Ed.) sec. 629; *Francis v. Taylor, 31 N.Y. Misc. 187, 52 N.Y. App. Div. 631*; *Windmuller v. Distilling Co., 114 Fed. 491, 115 Fed. 748*. *(12)* The dissolution is not prejudicial to the public welfare. (13) Maynard's laches and acquiescence should preclude his objections from consideration. Lack of diligence forfeits relief. *Troll v. City, 257 Mo. 663*; *Loomis v. Mo. Pac.*, [***16] *165 Mo. 495*. When the effort is to set aside or attack executed transactions, equity requires prompt action. *Burgess v. St. Louis Ry., 99 Mo. 508*; *Taylor v. Short, 107 Mo. 393*; *Morgan Co. v. Halderman, 254 Mo. 648*. The rule of laches and acquiescence applies to efforts by stockholders to set aside corporate transactions. *Tanner v. Lindell Ry., 180 Mo. 18*; *Johnson v. United Rys. Co., 243 Mo. 297*; *Loomis v. Mo. Pac., 165 Mo. 495*. Maynard and Holmes as stockholders are presumed to have known all that the corporate books and records disclosed, as well as what the evidence shows they did know. *Johnson v. Rys., 243 Mo. 297*; *Kitchen v. Ry., 69 Mo. 226*; *Feld v. Roanoke Co., 123 Mo. 618*. *(14)* Equity will not decree a rescission when the status has completely changed and the rights of third persons have intervened, or where it is plainly impracticable for the court to restore the status quo. *Johnson v. Railroad, 227 Mo. 451*.

JUDGES: WILLIAMSON, J. Williams, J., concurs in the result. Woodson, J., absent.

OPINION BY: WILLIAMSON

OPINION

[*657] [**601] In Banc

WILLIAMSON, J. — This is a proceeding by the Doe Run Lead Company, incorporated, for dissolution under the provisions of Sections 2996 [***17] to 3000, inclusive, Revised Statutes 1909. Samuel R. Maynard and Robert Holmes, objecting stockholders, and the St. Joseph Lead [*658] Company filed answers. Upon a hearing below, a decree of dissolution was entered and from that decree Samuel R. Maynard and Robert Holmes have duly, but separately, appealed. The two appeals have been consolidated, however, and will be decided as one.

The pleadings are voluminous; the evidence covers some twelve hundred pages; the property interests involved are large; the questions presented for our determination are numerous, and many of them are important. The petition, covering twenty-four pages, exclusive of exhibits, avers in substance; omitting formal allegations, that a resolution authorizing the filing of this proceeding for the dissolution of petitioner was duly adopted by the holders of more than two-thirds of the capital stock of the petitioning corporation; that for reasons covering some eighteen printed pages, it is to the best interests of its stockholders that the properties of the petitioner shall be consolidated with the properties of the St. Joseph

Lead Mining Company, incorporated, which is a corporation engaged in the same [***18] line of business in the same locality as petitioner, and is a party to these actions; and that those stockholders of the petitioner *"who now desire a dissolution of said company, also desire that all the property and business of the Doe Run Lead Company be first sold"* to the St. Joseph Lead Company, and it is then averred that they (that is, the stockholders of petitioner who desire that its properties be sold to the St. Joseph Lead Company) also *"desire that said sale and transfer be made upon a basis which will fairly and fully compensate such minority stockholders of the Doe Run Lead Company as may object to such sale, transfer and dissolution, by liquidating their respective interests in the Doe Run Lead Company, either in shares of stock of the St. Joseph Lead Company or in cash," but that (in substance) if that arrangement cannot be made, then that the properties of petitioner be sold at public sale.* (The italics are ours.) The prayer is for a decree of dissolution and for an order directing the proper officials of petitioner to take charge of its assets as trustees, as [*659] provided by Section 2995, Revised Statutes 1909, and for such further orders as may be [***19] appropriate. A demurrer to this petition, based upon constitutional and various other grounds, including that of a failure [**602] to state facts sufficient to constitute a cause of action, was overruled, and, as above stated, defendants Maynard, Holmes and the St. Joseph Lead Company filed answers.

The answer of appellant Maynard consisted of a general denial and the following affirmative defenses:

1. That the dissolution had not been authorized by stockholders holding and entitled to vote two-thirds of the value of all the shares of stock.

2. That the defendant, the St. Joseph Lead Company, which claimed to own more than two-thirds of all the shares of stock in a Missouri corporation, and that its attempt to do so was in violation of the laws and public policy of this State.

3. That the joint committee of stockholders which had been appointed to arrange the terms of the consolidation of the two corporations had not acted in good faith, but had been controlled by the St. Joseph Company.

4. That the resolution authorizing the dissolution is void because in violation of the laws of this State, in that it contemplated the purchase by the Doe Run Lead Company of its own capital [***20] stock.

5. That the resolution of dissolution had been abandoned and had not been accepted by the St. Joseph Company, and that neither of the two corporations had attempted to proceed under or in accordance with the resolution for more than three years after the adoption thereof, and that conditions in the meantime had so changed as to make the resolution inapplicable.

6. That the resolution was illegal and void because the owners of a majority of the capital stock of the Doe Run Company had been coerced into consenting thereto by certain persons who were in control of the St. Joseph Company.

7. That the petitioner cannot maintain an action under the provisions of Sections 2996 to 3000 inclusive, Revised Statutes 1909, [*660] because the same were enacted long subsequent to the incorporation of the petitioner, and are not retroactive in their operation, and that to permit a dissolution to be decreed under the provisions of said sections would be in violation of certain sections named, of the Constitution of the State of Missouri, and of certain amendments to the Constitution of the United States, particularly the due-process-of-law provision, and those relating to taking private [***21] property for private use, and impairing the obligations of a contract.

8. That the resolution authorizing a dissolution of the petitioner was not legally adopted, for the reason that the St. Joseph Company could not vote the shares of stock it claimed to own, and that to so construe Section 2996, supra, as to permit such stock to be voted would be in violation of Sections 5 and 7 of Article XII of the Missouri Constitution.

9. That all contracts between the said two corporations by or through which the St. Joseph Company exercised control over the Doe Run Company were made in violation of Chapter 98, Revised Statutes, 1909, relating to pools, trusts and combinations, in violation of the Federal Anti-Trust Law, and of the Clayton Act; and are prejudicial to the public welfare, and that the proceeding is not a proceeding on the part of the Doe Run Company stockholders for the dissolution of that company, but is a suit by the St. Joseph Company for the dissolution of the Doe Run Company.

Certain other defenses are also set forth in this answer, and in the answer of Holmes, but need not here be stated. The issues made by the answer of defendant Maynard substantially cover all of the [***22] defenses alleged in the other answers. The answer of defendant Holmes also alleged the proceeding to be an attempt on the part of the St. Joseph Company, as owner of more than two-thirds of the stock of the Doe Run Company, to force a sale of all the property of the Doe Run Company to the St. Joseph Company.

[*661] The defendant St. Joseph Lead Company, by its answer, admitted all of the allegations contained in the petition, and consented that a decree of dissolution should be entered, and alleged that the defendant Maynard was estopped to object to the decree of dissolution,

for the reason that although he has been at all times during the pendency of the negotiations looking to dissolution, a stockholder in both companies and fully acquainted with all those proceedings, he made no objection thereto; that the St. Joseph Company had purchased more than ninety four per cent of the Doe Run Company stock in an effort to execute the proposed consolidation and merger; that those purchases were made with the full knowledge of defendant Maynard and without objection on his part; that it was now impossible to restore the *status quo*, and that the said Maynard was thereby estopped [***23] from opposing the decree of dissolution.

The petitioner filed a reply to the answer of Maynard, setting up substantially the same matters alleged in the answer of the St. Joseph Company. The foregoing is as much of the pleadings as it is necessary to set forth.

A detailed statement of the contents of the record would be so voluminous as to tend to confuse rather than to elucidate, and is unnecessary. For that reason only so much of the facts as may be thought to be essential to an understanding of the questions presented and decided, or which tend to shed light upon those questions, will be stated.

The petitioner, the Doe Run Company, is a corporation which was organized under the [**603] laws of the State of Missouri in 1886, for the general purpose of leadmining. Apparently all of its property is located in this State. Its capital stock originally consisted of two thousand shares of stock of the par value of one hundred dollars each, but at the time of the institution of these proceedings it had been increased to ten million dollars. Certificates of stock had been issued and were outstanding for 65,783 shares. The par value of the stock is [*662] $ 100. Appellants own [***24] something more than 1,100 shares of Doe Run Company stock.

Closely allied to the Doe Run Company is the St. Joseph Lead Company, a corporation organized under the laws of the State of New York in 1884, with a capital stock originally of one million dollars. By successive changes the capital was ultimately increased to twenty million dollars, of which ten millions, of the par value of ten dollars per share, had been issued. The general purpose of the St. Joseph Company was the same as that of the Doe Run Company. At the time of the institution of this action, Clinton H. Crane was president of both companies. The St. Joseph Company claims to own 63,401 shares of the outstanding stock of the Doe Run Company. The Doe Run Company had for some time prior to the institution of this action been under the control of the original incorporators, and the affairs of the Doe Run Company had apparently been seriously mismanaged by them. The mismanagement was of so grave a character that a liability in a sum approximating one million dollars on account thereof was thought to exist in favor of the Doe Run Company, and suit had been brought upon that claim by appellant Holmes and others against former [***25] officials of the Doe Run Company and others. The same individuals who were sued in that action were large stockholders in the St. Joseph Company. The St. Joseph Company was also the owner of all of the capital stock of the Mississippi River & Bonne Terre Railway Company, a corporation with a capital stock of three million dollars, operating about seventy-two miles of railroad. The St. Joseph Company also owned ninety-six per cent of the stock of the Bonne Terre Farming & Cattle Company, the total capital stock of which consisted of fifty thousand shares of the par value of ten dollars each, and until the date of the dissolution of the Farmers' & Miners' Trust Company, in May, 1913, the St. Joseph Company was also the owner of 83 1/3 per cent of the capital stock of that company. It also owned mining rights in about twenty-five [*663] thousand acres in St. Francois County, and it had numerous concentrating mills, smelters, mining shafts and the usual equipment of a lead mining company. The Doe Run Company owned about seven thousand acres of mineral land, with the usual mining equipment, and was engaged in leadmining only. It appears from the various exhibits filed in this case [***26] that for many years prior to the institution of these proceedings, both companies had been paying dividends, either in cash or stock, in large sums.

In 1913, the St. Joseph Company desired to fund some of its outstanding obligations, amounting to several million dollars, and made arrangements with certain bankers to issue two million five hundred thousand dollars of notes for that purpose. This arrangement was conditioned, however, as follows: That the St. Joseph Company should acquire as least eighty per cent of the capital stock of the Doe Run Company, or there should be a merger of the properties of the two companies. At this time the negotiations which finally led to the litigation here involved were begun. A joint committee, composed of stockholders from both companies, was appointed to work out the details of the proposed purchase or consolidation. In March of 1913, this committee, of which Mr. Clinton H. Crane, the president of both companies, was a member, mailed to the stockholders of the two corporations a letter in the nature of a report, in which the stockholders were informed of the appointment of the committee and of the general purposes for which the committee had been [***27] appointed. In July, 1913, at a meeting of the committee held in New York City, a report was made of the proceedings of the committee up to that date, and a communication was sent by the committee to the boards of directors of the two lead companies, in substance as follows: (a) that the proposed merger of the two companies should be carried out as speedily as practicable; (b) that the assent of the stockholders of both

companies should be obtained; (c) that the consolidation should be upon the following basis: [*664] that, inasmuch as the St. Joseph Company had a capital stock of twenty million dollars, of which only ten millions had been issued, five millions of the unissued stock of the St. Joseph Company should be issued in exchange for all of the outstanding capital stock of the Doe Run Company, (d) that the consolidation should be upon the basis suggested by a consulting engineer, Mr. Finlay, which, in substance, was that in the proposed new company the stockholders of the St. Joseph Company should own two-thirds of the capital stock, and the stockholders of the Doe Run Company, should own one-third. Accompanying this report was a letter from four directors of the Doe Run [***28] Company, Messrs Jones, Camp, Parsons and Smith, in which they recommended the proposed consolidation and agreed to vote the stock which they controlled in favor of the plan proposed. With the same communication was enclosed also an agreement and proxy to be signed by the stockholders of the Doe Run Company, whereby the signers of such agreement bound themselves to agree to the proposed merger. The merger was to be effected by the purchase by the St. Joseph Company of all of the properties, or of not less than four-fifths of [**604] the stock of the Doe Run Company. In the event of the purchase of the properties of the Doe Run Company, the St. Joseph Company was to assume and agree to pay all of the outstanding obligations of the Doe Run Company, including all expenses incident to the merger, and the Doe Run Company was to be dissolved. In addition to the five million dollars of stock to be issued to the stockholders of the Doe Run Company, the St. Joseph Company was also to pay the sum of $ 125-000 in cash, which cash payment was to be distributed among the stockholders of the Doe Run Company in proportion to their holdings of stock in that company. The agreement embodied in the [***29] proxy, however, was optional to this extent, that it was provided that in case the St. Joseph Company declined to purchase the properties of the Doe Run Company, but should be willing to purchase the stock of that company, then the agreeing [*665] stockholders bound themselves by signing the proxy, to sell all of their shares of stock in the Doe Run Company to the St. Joseph Company, and to accept in payment therefor cash and shares of stock in the St. Joseph Company, in proportion to their stock holdings in the Doe Run Company, on the basis of five million dollars in stock and $ 125,000 in cash to be paid by the St. Joseph Company for all of the stock of the Doe Run Company; provided, further, that the agreement should become effective in the event that the owners of eighty per cent or more of the stock of the Doe Run Company should accept the offer thus made, within three months from September 10, 1913. Within the three months period, the president of the Doe Run Company notified the stockholders of that company that the owners of more than four-fifths of the outstanding capital stock of the Doe Run Company had executed the agreement and proxy above mentioned, and stated that [***30] the annual meeting called for November 15, 1913, would be adjourned to December 6, 1913, at which time it was held at Bonne Terre, Missouri. By that time the owners of about ninety-one per cent of the capital stock of the Doe Run Company had accepted the proposed offer.

At the meeting of December 6, 1913, stockholders representing 62,062 shares of the Doe Run Company were present in person or by proxy, and a resolution was adopted which provided, in substance, as follows:

1. An approval of the acts of the board of directors in reference to the proposed merger or consolidation of the two companies, including a settlement of the case Holmes et al. v. Doe Run Company officials et al., above mentioned.

2. Authority was granted to the proper officials of the Doe Run Company to sell and deliver to the St. Joseph Company all of the assets of the Doe Run Company, upon the agreement by the St. Joseph Company to assume and pay the obligations of the Doe Run Company, including all expenses incident to the sale and subsequent liquidation and dissolution of the Doe Run Company, [*666] and upon the payment by the St. Joseph Company of the purchase price of five million dollars in stock of [***31] the St. Joseph Company, and $ 125,000 in cash.

3. That upon the consummation of this arrangement, the stock of the Doe Run Company should be surrendered and canceled, and the company itself should be dissolved.

Correlative action was taken on December 9, 1912, by the stockholders of the St. Joseph Company. On December 11, 1913, the St. Joseph Company notified the stockholders of the Doe Run Company that the St. Joeph Company declined to purchase the assets of the Doe Run Company, but was willing to purchase unconditionally eighty per cent or more of the capital stock of the Doe Run Company, and requested that the certificates of the Doe Run Company stockholders should be presented for transfer pursuant to the terms of the proxy above mentioned. It is claimed that, under that arrangement, the St. Joseph Company has purchased ninety-six per cent of the outstanding capital stock of the Doe Run Company.

It thus appears that the first suggestion of an outright purchase by the St. Joseph Company of the properties of the Doe Run Company was abandoned, and that the second method suggested -- that of purchasing at least eighty per cent of the capital stock of the Doe Run Company -- was adopted [***32] instead.

As to much of the evidence in the record before us, it will suffice to say that it tended to support the contention of the parties respectively, but the following additional facts should be stated because they are peculiarly relevant to certain of the questions we are called upon to decide.

It appears from the testimony of Mr. Clinton H. Crane, president both of the Doe Run Company and the St. Joseph Company, that the St. Joseph Company had shortly before the date of the trial, June 6, 1917, purchased a number of shares of the Doe Run Company stock, and had paid as high as one hundred and fifty [*667] dollars per share for it. It also appears that the St. Joseph Company has sold twelve hundred shares of this stock to Mr. Hendon Chubb, at the price of one hundred and twenty-five dollars per share. This sale, however, was made for special purposes connected with the anticipated contest for dissolution and, according to the testimony of Mr. Crane, involved a profit to the purchaser of about thirty thousand dollars. The evidence seems to indicate that the Doe Run Company stock at the time of the trial was worth at least one hundred and fifty dollars per share, or fifty [***33] dollars above par.

It further appears from the testimony of this same witness that during the year 1913 the net earnings of the Doe Run Company amounted to $ 755,230.45. During the year 1914 the net earnings amounted to $ 675,385.88. [**605] During 1915 the net earnings amounted to $ 819,417.04, and during the year 1916 the net earnings were $ 2,632,900.73. During the whole of this time the *issued* capital stock of the Doe Run Company was $ 6,578,300. (Appellant claims that all of the Doe Run Company stock was fully paid up, but that part of it remained unissued.)

During the corresponding years the net earnings of the St. Joseph Company were as follows: 1913, $ 600,000; 1914, $ 646,559; 1915, $ 505,497.10; and 1916, $ 3,880,091. In 1913 the St. Joseph Company had outstanding capital stock in the sum of $ 10,000,000, and this amount was gradually increased by issuing St. Joseph Company stock in exchange for Doe Run Company stock until in 1916 the amount of St. Joseph Company stock outstanding was approximately $ 14,094,660.

On June 1, 1916, the total indebtedness of the Doe Run Company was $ 135,293.59. On the same date the total indebtedness of the St. Joseph Company was [***34] $ 3,049,253.05. These statistics are cited for the purpose of showing, to that extent, the relative financial standing and earnings of the two companies.

Mr. Crane also testified that there were five directors of the Doe Run Lead Company, namely, himself and Messrs. Harlan, Whitaker, Pryor and Dearing. Mr. [*668] Crane, as stated, was also president at the same time of the St. Joseph Company. Mr. Harlan, Mr. Whitaker, Mr. Pryor and Mr. Dearing each owned one share only of the stock of the Doe Run Lead Company, which they had bought from Mr. Chubb. Mr. Chubb was the purchaser of a number of shares of the Doe Run Company stock which had been transferred to him by the St. Joseph Company for the purpose of furthering the proposed consolidation scheme. Mr. Dearing also owned 4980 shares of the St. Joseph Company stock. This stock was of the par value of ten dollars per share.

In connection with these facts, Mr. Crane testified: "We don't wish to conceal the fact that the St. Joseph Lead Company is controlling the Doe Run Lead Company at the present time."

Subsequent to the entry of a judgment in this case in the court below, the trustees, Messrs. Whitaker, Pryor, Harlan, Dearing [***35] and Crane, entered into an agreement to sell the entire trust estate of the Doe Run Company to the St. Joseph Company, for the sum of eleven million dollars (less a dividend at the rate of five dollars per share) on the following conditions:

1. The St. Joseph Company to assume and pay all debts and liabilities of the Doe Run Company except the dividend above mentioned, which was to be paid as of a date prior to the purchase;

2. To assume and perform all lawful contracts and obligations of the Doe Run Company;

3. To pay in cash its ratable portion of the expenses of dissolving the Doe Run Lead Company, and

4. To pay to the Doe Run Company stockholders the value of their stock, in cash, as fixed by that contract of sale, that is, on the basis of eleven million dollars for all the property of the Doe Run Company, or to exchange the stock of the St. Joseph Company, in lieu of cash, at the rate of 8.8 shares of St. Joseph Company stock, par value $ 10, for one share of Doe Run Company stock, par value $ 100.

[*669] This proposition was reiterated, in substance, at various times during the progress of the trial. It appears also from the testimony of Mr. Crane that the appellant [***36] Maynard at no time consented to the consolidation plan, and at a meeting of the stockholders of the Doe Run Company in May, 1915, filed written objections to it. By the evidence of the same witness, it appears that among other benefits to be derived from the consolidation was that of escaping assessment for taxation purposes of large sums under both the State and Federal income tax laws, and perhaps under other tax laws. There was evidence also that consolidation would result in large savings in the cost of operating and would be beneficial to both corporations in many other respects,

which we do not think it necessary to set out in detail, for reasons which will appear in this opinion.

We think the facts stated, together with such others as may be mentioned in the body of the opinion, constitute a sufficient statement of the facts.

At the conclusion of the trial, the court rendered judgment in behalf of the petitioner, and thereupon appellants filed their motions for new trial and in arrest of judgment, which were overruled, and by proper steps they have appealed. All of the questions to which we hereafter refer were duly preserved below, and are properly before us for decision.

[***37] Respondent has filed a motion to dismiss the appeals in these cases upon the general theory that no appeal lies in proceedings of this kind.

Respondent also contends that appellants are estopped to question the validity of the decree of dissolution entered in the trial court, and for that reason respondent claims that the judgment must be affirmed.

Appellants assert that this is not a bona-fide dissolution proceeding, such as is contemplated by the statute upon which this proceeding is based, and for that reason appellants claim that the cause must be reversed.

Each of these three propositions is vital, and if either is decided in favor of the party who advances it, the decision [*670] will dispose of these cases. We will consider these contentions in the order named.

I. Respondent's first contention, as stated by its counsel, is as follows:

"Three essentials must exist to entitle one to appeal from a judgment of the circuit court.

"1. There must be a judicial proceeding to ascertain and determine litigated rights.

"2. The right of the appeal must be allowed by statute, either special or general.

"3. The appellant must have an immediate personal pecuniary or property [***38] interest in the cause as determined, and be aggrieved by the judgment or decree complained of, that is, his legal rights be prejudiced thereby."

Respondent insists that none of these three essentials is found in this case.

In determining this question thus presented, we turn first to our own statutes. If our own laws are decisive of this question, there is no need to resort to the learning abundantly set forth in the briefs of counsel concerning the right of appeal at common law, or the procedure in other states. We therefore cite certain pertinent provisions of our Code of Procedure (R. S. 1909).

[HN1] Section 1727 is as follows: "There shall be in this State but one form of action for the enforcement or protection of private rights, and redress or prevention of private wrongs, which shall be denominated a civil action." Section 2038, relating to appeals, provides as follows: "Any party to a suit aggrieved by any judgment of any circuit court in any civil cause from which an appeal is not prohibited by the Constitution, may take his appeal . . . from any final judgment in the case." Section 2040 is as follows: "No such appeal shall be allowed unless . . . the appellant or his agent shall [***39] . . . file . . . his affidavit stating that . . . the affiant believes that the appellant is aggrieved by the judgment or decision of the court." Section 2090 defines a judgment thus: "A judgment [*671] is the final determination of the right of the parties in the action."

The first question to be determined, then, is as to the nature of this proceeding. Appellant contends that it is a civil action. The contention of respondent is that this proceeding is administrative and non-judicial in character; that the proceedings are regulated by Sections 2996 to 3000, inclusive, Revised Statutes 1909, and that those sections form a complete code of procedure in such a proceeding as is here involved.

Turning our attention to appellant's contention first, it is to be noted that Section 1727, supra, in plain terms states that all actions of the kind therein described are civil actions. The description is very broad; it relates to all proceedings "for the enforcement or protection of private rights, and redress or prevention of private wrongs." It covers practically every sort of case or proceeding affecting private rights or private wrongs. While it is recognized by the statutes, and admitted [***40] by the parties in this proceeding, that certain interests of the public are here involved, that fact is not peculiar to this class of cases and does not tend to show that this is not a proceeding affecting private rights. The same condition exists in divorce cases, for example. The statute under which this proceeding is brought contemplates the filing of a petition containing allegations of certain issuable facts; it provides for issuing a summons and for an order of publication, and adversary parties are brought into court in order that they may show cause against the granting of judgment. Provision is thus made for contesting issues of law or fact, and for the hearing of evidence, in order that the court may render a judgment granting or refusing a dissolution, as the law and the facts may determine. The judgment so to be rendered may destroy the life of the corporation concerned, and may deprive the stockholders of their stock and compel them to take their distributable share of the assets in cash, thus completely changing the nature of their property and compelling the

dissenting [*672] stockholders to surrender an investment which they prefer to retain. The change thus to [***41] be brought about may, and, in the case at bar, actually does involve many million of dollars. Furthermore, the statute, in certain matters specifically directs that the procedure of the trial court shall be "according to the practice therein," and before a decree or dissolution is authorized, the court must be "satisfied that the prayer of such petition can be granted without prejudice to the public welfare, or to the interest of the corporators or the creditors of such corporation." If a judgment of dissolution is entered, a trust is then created embracing all of the assets of the corporation and trustees are appointed to administer the trust. The voluminous record before us is bodily evidence that many and complicated issues of law and fact may arise in such a proceeding, requiring much time and great care for their proper hearing and decision. It seems to us that this proceeding has all of the essential characteristics of a civil action and we hold that it is properly so classified.

The policy of this State with reference to the right of appeal has always been a very liberal one. [State *ex rel. v. Shelton, 238 Mo. 281, 297, 142 S.W. 417*; *Nolan v.* [**607] *Johns, 108 Mo. 431,* [***42] *435.*] Indeed, by the express terms of the statute (Sec. 2038 supra) an appeal is allowed in every case unless the appeal in that class of cases is "prohibited by the Constitution." We find no constitutional prohibition applicable in this instance.

Respondent, however, contends that the final decree rendered in this cause is not a judgment within the meaning of our code. Is the decree rendered in this case "a final determination of the rights of the parties in the action" -- using the word action in the sense in which it is used in the code? That the answer to that question must be in the affirmative, we think admits of little doubt. The decree in the present instance, as shown by the record before us, disposes of this proceeding in the language common to judgments in ordinary actions at law or in equity.

[*673] It recites the entry of appearance of those parties who entered their appearance, and that certain others, although "duly summoned" and "solemnly called," made default. Reference is made throughout the decree to this proceeding as a "cause." The decree recites "the submission of this cause," that the court "heard and considered all the evidence in the cause" and "accordingly [***43] does here and now adjudge and decree (and does enter its judgment and decree) that," etc., "in accordance with the prayer of said petition, and does here and now order, adjudge and decree that the corporate charter and franchise of said, the Doe Run Lead Company, be and the same are declared to be surrendered, dissolved and cancelled, and that the corporate existence of the said Doe Run Lead Company shall from this day forever be ended." This is followed by a paragraph directing the officers of the company designated by the statutes as statutory trustees, to take charge of the assets and affairs of the Doe Run Company and administer them, and, in the language of the decree, "to the foregoing judgment and decree defendants' Samuel R. Maynard and Robert Holmes objected and excepted." Whatever may have been the intention, certainly there is little in the language of this decree to differentiate it from a judgment of the court in cases about whose character there could be no question whatever. We have theretofore construed this statute as one calling for a "judicial determination" of the facts involved (*Luehrmann v. Lincoln Title & Trust Co., 192 S.W. 1026, 1032.*) Cases arising under statutes [***44] very similar to ours have been treated in other states as action in which the right of appeal existed as a matter of course. [*In re Paine, 166 N.W. 1036*; *In re Hulbert, 160 N.Y. 9, 15.*]

We are constrained to hold, then, that this final decree was a final judgment within the code definition above given, and within the meaning of our statutes relating to appealable judgments, and that this is a judicial proceeding to ascertain and determine litigated rights.

[*674] As to whether or not the appellants are "aggrieved," it is urged by respondent that that fact depends upon whether or not appellants' legal rights have been prejudiced by the decree. But this is reasoning in a circle. Reasoning which holds that it shall be known in advance of an appeal, that an injury has been sustained, when the determination of that fact can only be had upon appeal, is palpably fallacious. Moreover, the affidavit for appeal requires merely that affiant shall "believe" the appellant is aggrieved by the judgment. We need not waste further words upon this contention.

The Missouri cases cited by respondent in which it is held that an appeal would not lie, may all, we think, easily be distinguished [***45] from this case. *St. Louis, etc., Ry Co. v. City of St. Louis, 92 Mo. 160, 4 S.W. 664*, relates to the building of a railroad across state and county roads. *In re Town of Arcadia, 201 S.W. 359*, relates to disincorporating a municipal corporation. *Hall v. De Armond, 46 Mo. App. 596*, relates to the incorporation of a town, and *Aldridge v. Spears, 101 Mo. 400, 406, 14 S.W. 118*, relates to the vacation and establishment of public highways. All of these cases, it will be observed, relate to matters essentially, and practically solely, administrative in character, and specially, peculiarly and almost exclusively affecting the general public.

Bean v. Barton County Court, 33 Mo. App. 635, and similar cases cited by respondent, relate to the granting or refusal of licenses to sell intoxicating liquors -- a business which was never more than merely tolerated, if

not actually discouraged, by the law, and which was strictly regulated by special and peculiar legislation. All of these cases differ widely both in their character and in the attitude of the law toward them from the case in hand. They certainly are not determinative -- hardly persuasive, indeed -- as applicable here.

The question of [***46] the existence of the right of appeal was not involved in State *ex rel. v. Woodson, 128 Mo. 497, 31 S.W. 105*, cited by respondent. *Ackerman v. Green, 201 Mo. 231, 100 S.W. 30*, [*675] relates to the examination of a judgment debtor in a proceeding to discover assets, a proceeding obviously intended to be summary in character, and so we might proceed to distinguish from the case at bar all of the cases cited upon this point by respondent, did space and time permit. We have considered them all, but do not think them controlling in this instance.

Appellant calls our attention to the fact that Sections 2996 to 3000, supra, contain no provision respecting the filing of any pleadings other than the petition. This is true. But if reasons against dissolution are to be presented, can any better or more orderly method of presenting them be devised, than [**608] by filing appropriate pleadings and tendering issues of law or fact? If these issues are to be determined (as they are) by a court, would not the usual and orderly court procedure be the most familiar and effective way of reaching a just decision? And, finally, is not the very fact that no special provision is made for any other [***47] method of procedure, evidence of a high order that, so far as applicable, the usual civil procedure should obtain in proceedings of this kind? We think so, and we think that was the legislative intent.

Having reached the conclusion that this is an appealable civil action within the meaning of our Civil Code, it incidentally becomes important to determine whether it is an action at law or in equity. The statute upon which this action is based does not classify it. But that is also true of other actions arising under various statutory provisions, notably under the provisions of Section 2535, Revised Statutes 1909, relating to actions to ascertain and determine title. When the issues are at law, the proceeding is an action at law. If the pleadings tender equitable issues, then the case is in equity. In other words, the nature of the issues determines the character of the action. [HN2] "If the issues joined, entitle the parties to an ordinary judgment at law, then, under the constitution and laws of the state, the parties are entitled to a trial by jury; but if the [*676] issues tendered are equitable in their nature and call for equitable relief, then the cause is triable before the chancellor." [***48] [*Lee v. Conran, 213 Mo. 404* l. c. 412, *111 S.W. 1151.*] Measured by the standard thus laid down, it seems clear that, in view of the nature of the relief sought (in part, the creation and administration of a trust), as well as of the nature of the issues tendered, this is an action in equity. The parties and the trial court have so treated it. The St. Joseph Company in its answer, and the Doe Run Company in its reply to the answer of appellant Maynard, each pleads estoppel *in pais*, which is an equitable plea. We accordingly hold that this is an equitable action.

II. Respondent asserts that appellant Maynard is estopped to question the dissolution proceedings. We take from respondent's brief the following statement of facts upon which the plea of estoppel is based:

"The record disclosed that Maynard, for a number of years prior to 1912, was the owner of substantial blocks of stock in St. Joseph Lead Company and also in the Doe Run Lead Company; that he received the letter of the joint committee dated March 20, 1913, . . . advising him of the appointment of the joint committee, and its plans and purposes; that he received the report of the joint committee of September 10, 1913, [***49] in due course of mail; that he also received the 'Agreement and Proxy,' also the letter from the four directors of the Doe Run Lead Company, dated September 15, 1913; that he was duly notified thereby of the report of the committee and its recommendations; that in due course he was notified of the meetings of the stockholders of the two companies to take action thereon and that he received the letter from St. Joseph Lead Company, dated December 11, 1913, notifying him that said company had elected and was proceeding to purchase not less than eighty per cent of the stock of the Doe Run Lead Company.

"In addition, by conversation with Camp, . . . he learned that St. Joseph Lead Company had acquired [*677] the necessary stock for the purpose of the ultimate consolidation as planned. Maynard, both by letter and conference with Camp and Crane, was fully advised of the transactions between the two companies. Notwithstanding Maynard's complete knowledge of all that was being done, and was done, the record shows no objection from him at either of the stockholders' meetings of the two companies, held as follows: The Doe Run Lead Company on December 6, 1913, or St. Joseph Lead Co. on December [***50] 9, 1913, or the stockholders' meeting of the Doe Run Lead Company held October 10, 1914. His first objection was made at the stockholders' meeting of May, 1915, of the Doe Run Lead Company. During this period the Doe Run Stockholders had exchanged their shares, the St. Joseph Company had bought them, each company had materially changed the personnel of its stockholders, and each had profited by the economies of joint operations, as well as by improved methods, and aided by a greatly increased price received for its lead product both companies were prosperous.

"Maynard did not attend the stockholders' meeting held December 6, 1913, for the reason stated by him that over ninety per cent of stockholders had agreed to exchange their stock for, St. Joseph stock. There was no use of my going to the meeting.'"

The foregoing is a fair summary of the facts upon which the plea of estoppel is founded. Are these facts sufficient to constitute estoppel? We think not. The most that respondent claims amounts merely to this: that appellant stood by with full knowledge of what was intended and of the steps that were being taken to carry that intention into execution, but did noting to thwart the [***51] scheme that others had devised and were proceeding to execute. There is nothing in this record to cast doubt upon the business acumen of the experienced and skilful financiers who, under the guidance of learned counsel, were for three years engaged in perfecting the plans which were to bear fruit in a decree of dissolution. Presumptively, they knew the law and their rights under the [*678] law. It is not claimed that appellant ever consented to their plans or participated in executing them. The complaint amounts, in substance, to a claim that appellant knew what they were planning to do and did not stop them. Estoppel *in pais* does not necessarily arise from notice and inaction alone. The essentials of estoppel *in pais* are well stated as follows:

[**609] "The cases when carefully analyzed show that [HN3] all of the following elements must actually or presumably be present in order to an estoppel by conduct: 1, there must have been a false representation or a concealment of material facts; 2, the representation must have been made with *knowledge* of the facts; 3, the party to whom it was made must have been ignorant of the truth of the matter; 4, it must have been made [***52] with the intention that the other party shoud act upon it; 5, the other party must have been induced to act upon it." [Bigelow on Estoppel (3 Ed.), 484.] [See also *Blodgett v. Perry, 97 Mo. 263, 272, 10 S.W. 891*; *Harrison v. McReynolds, 183 Mo. 533, 548, 82 S.W. 120.]* Certain essential elements of estoppel are neither pleaded nor proven in this case.

Nor do we well see with what grace the plea of estoppel can be made by the only parties who are here relying upon it, in any event. So far as the Doe Run Company is concerned, the facts simply are that certain of its stockholders have sold their stock. This they had a right to do, and they are making no complaint. As to the St. Joseph Company, it has brought certain shares of stock, but it is neither alleged nor proven that it has lost by the investment. On the contrary, there is no small amount of evidence from which the contrary might be inferred. [HN4] In order to make good a plea of estoppel, it is necessary both to allege and to prove that one has been misled to his hurt. [*Acton v. Dooley, 74 Mo. 63, 69*; *De Lashmutt v. Teetor, 261 Mo. 412, 169 S.W. 34.]* In so saying, we do not overlook respondent's insistence that the results of [***53] not being permitted to bring the scheme of merger to full fruition may cause embarrassment and inconvenience. [*679] The question is whether such ill results are properly chargeable to appellant's wrongful conduct or to respondent's own imprudence. We incline to the latter view. Appellant Maynard never agreed to the consolidation scheme and the parties knew, at least as early as May, 1915, that he was objecting to a consolidation. A careful study of this record justifies the conviction that it is a case where Greek met Greek, and there is no room for an application of the doctrine of estoppel. We rule this point against respondents.

III. Appellants assert that this is not a bona-fide [**606] dissolution proceeding such as is contemplated by the statute upon which this proceeding is based, and for that reason appellants claim that the cause must be reversed.

The statute here involved provides for the voluntary dissolution of a corporation upon either of two given states of fact. The first is not applicable in this case. The second, upon which this proceeding is based, exists whenever the stockholders holding at least two-thirds in value of all the shares of stock in said [***54] corporation shall adopt a resolution favoring the dissolution of such corporation, whether said corporation be indebted or not, or whether its stock has depreciated below its par value or not." [HN5] Upon the adoption of such a resolution and the filing of a proper petition, the statute (Sec. 2996, supra) provides that "such corporation *may* be dissolved by a judgment or decree of the circuit court . . ." (Italics ours.) The statute does not give to the majority an absolute right to procure a decree of dissolution, nor does it confer upon the minority an absolute power to prevent it. Neither does the statute vest in the majority a right, under color of dissolution proceedings, to compel the minority to take stock in a new corporation in lieu of its stock in the former one, nor has the majority a right to fix the price which shall be paid for the stock of the dissenting stockholders, and compel them to accept it. The stock [*680] which belongs to appellants is their private property, and private property (with certain exceptions not here invoked) cannot, without the owner's consent, be taken for private use by any majority, however great, nor by the payment of any price, however [***55] large. Our Constitution provides: "That [HN6] no private property can be taken for private use, with or without compensation, unless by the consent of the owner, except for private ways of necessity, and except for drains and ditches across the lands of others for agricultural and sanitary purposes, in such manner as may be prescribed by law." [Sec. 20, Art. II, Mo. Constitution.]

In the case at bar, it is frankly stated that the purpose of the majority stockholders is to effect a consolidation of the Doe Run Company with the St. Joseph Company. The Doe Run Company seems to be engaged in a prosperous and promising business. In addition to what appears in our statement of facts, we quote the following from respondent's brief.

"By the date of the trial each company had realized very large profits, the St. Joseph Lead Company had paid all its matured debts, and on December 31, 1916, had more than $ 2,500,000 of cash in addition to other quick assets; and the Doe Run Lead Company at date of trial had over one million in cash; and the two companies had paid dividends as follows:

St. Joseph Lead Company in 1914, two and a half per cent;

St. Joseph Lead Company in 1915, six per cent;

St. [***56] Joseph Lead Company in 1916, ten per cent, and fifteen per cent amortization;

St. Joseph Lead Company to April 30, 1917, two and a half per cent, and five per cent amortization;

Doe Run Lead Company in 1914, none;

Doe Run Lead Company in 1915, eight per cent;

Doe Run Lead Company in 1916, ten per cent, and fifteen per cent amortization.

[**610] Doe Run Lead Company in 1917, twenty per cent amortization."

[*681] It thus appears that during the four-year period immediately preceding the institution of this suit, the St. Joseph Company paid dividends amounting to forty-one per cent, and the Doe Run Company paid dividends amounting to fifty-three per cent, on the amounts of their outstanding capital stock, respectively. The majority proposes to permit all of the stockholders of the Doe Run Company to become stockholders on fair terms, as respondent claims, in the St. Joseph Company, or to pay to the stockholders of the Doe Run Company who refuse to come in, the fair value of their shares of stock in the Doe Run Company. In either event the St. Joseph Company becomes the owner of appellants' stock. Under the circumstances, are appellants bound to accept either of these propositions? [***57] So long as the constitutional provision above cited remains a part of the fundamental law of this State, we think they are not. That they cannot be compelled to exchange their stock for other stock, needs no demonstration. That they cannot be compelled to sell their stock, is equally clear. It is true that if a dissolution is had and all of the assets of the company are converted into cash, appellants finally are compelled to accept money in lieu of stock. But their stock is by that method paid -- not sold. It is extinguished -- not transferred to another. That that result may be brought about by a *real dissolution*, is one of the incidents contemplated when the stock was brought. It is a part of the implied contract between the stockholders. Such a result is not a violation of the contract. But to permit that result to come to pass in consequence of a *pretended dissolution*, is to permit a thing not originally contemplated and which is in violation of the contract between the stockholders. It is a taking of private property for private use, in defiance of the Constitution. Or, to phrase the same thought otherwise, the stockholders buy their stock charged with notice that the [***58] corporation may be dissolved upon the application of two-thirds of the stock if, in the judgment of the court, dissolution can then be effected "without prejudice to [*682] . . . the interest of the corporators," to use the language of the statute. But corporators includes minority as well as majority stockholders, and it cannot fairly be said that the minority interests are not prejudiced if minority corporators are compelled to accept cash for their stock merely because the majority desires to own all of the stock. The statute contemplates that the power of dissolution vested by it in the holders of two-thirds of the stock shall be exercised by them in good faith for the benefit of all of the corporators, and not to the prejudice of any, and when an attempt is made by the majority to exercise that power for the benefit of less than all of the corporators, then the power fails. Any other construction makes the statute a weapon in the hands of the majority, for the oppression of the minority, and this was never intended.

Moreover, the dissolution statute contemplates a sale of the assets, a payment of the debts, if any, and a distribution of the remainder of the proceeds among [***59] the stockholders -- an administration of the assets of a defunct corporation, to put it bluntly. But the St. Joseph Company is shown by this record now to be offering to perform all lawful contracts and obligations of the Doe Run Company, and to pay all of its indebtedness, including the costs of dissolution, except appellants' proper proportion of those costs -- relatively a trivial sum. Practically all that remains to be done, upon respondent's theory, is to "administer" the assets sufficiently to pay off the dissenting stockholders, and consolidation will be an accomplished fact. Can consolidation be effected under our statutes in this way? Manifestly it cannot. Suppose both of these corporations were Missouri corporations, organized as the Doe Run Company is, and as the St. Joseph Company would have to be if it were a Missouri corporation, under the article relating to manufacturing and business corporations, could they, even by unanimous action, effect a consolidation by having one corporation buy all of the stock of the other and then dissolve the corporation whose stock had been sold? [*683] We think not. Such a proceeding would be illegal and con-

trary to public policy [***60] as that policy is declared in our statutes. Section 3360, Revised Statutes 1909, provides the method by which such consolidation may be effected, and Section 3662 of the same chapter and article expressly *limits the right of consolidation to corporations organized solely for manufacturing purposes.* These two corporations are not within that category. The expression of the legislative will embodied in Sections 3360 and 3362, and in Sections 2996 to 3000, inclusive, supra, is declaratory of the public policy of the State respecting the consolidation and dissolution of corporations. [HN7] Consolidation and dissolution may be effected as in these statutes provided and not otherwise. The rule by which the extent of the powers of a corporation is determined was aptly stated by Williams, J. (then Commissioner), in *Fishing & Hunting Club v. Kessler, 252 Mo. 424, 433, 159 S.W. 1080*, as follows: "It is a well-settled rule that when the organic or statutory law specifies the powers a given corporation may exercise, or the property it may hold, such specification by implication excludes all other powers or rights, except such incidental or subordinate rights and powers as may be necessary to an [***61] exercise of the powers and rights expressly given." [**611]

[See also State ex inf. v. *Mo. Athletic Club, 261 Mo. 576, 599, 170 S.W. 904*; *Millinery Co. v. Trust Co., 251 Mo. 553, 575, 158 S.W. 359.]*

If two Missouri corporations not engaged *solely* in manufacturing could not lawfully effect a consolidation, then it seems quite clear on principle, that a foreign corporation, acting in concert with a domestic corporation, in a proceeding in our courts, based upon the provisions of our statutes, cannot do so, particularly when neither of them is engaged *solely* in manufacturing. To countenance such a proceeding would be to extend privileges to foreign corporations which the State denies to its own citizens. If this were permitted, it would amount to a virtual repeal of our statutes relating to the consolidation of corporations. But we are not left [*684] without definite guidance on this point. [HN8] Section 3037, Revised Statutes, 1909, in express terms provides that foreign corporation doing business in this State shall be subject to all the restrictions imposed by our laws upon domestic corporations of like character, and shall have no other or greater power. Since two [***62] non-manufacturing domestic corporations cannot consolidate, it is certain that a domestic corporation cannot consolidate with a foreign corporation, when neither is engaged solely in manufacturing.

Furthermore, under the provisions of Section 2999, supra, the officers of the Doe Run Company, if a decree of dissolution is granted, become the trustees of all the assets of the corporation. Trustees for whom? They become trustees for the Doe Run creditors and stockholders and are in duty-bound to sell the assets to the highest bidder and for the highest price obtainable. But it is patent upon the face of the record before us that these officials stand committed to the plan of consolidation. The very heart and soul of that plan is that the St. Joseph Company shall become the owner of all of those assets, and the Doe Run Company is avowedly controlled by the St. Joseph Company. Self-interest on the part of the St. Joseph Company demands that these assets should be bought at the lowest possible price. The very officials who are to act as statutory trustees, are part and parcel of the means whereby consolidation is to be carried out. Two of them are large stockholders in the St. Joseph Company [***63] and expect to profit by the consolidation and have for several years been laboring to effect it. The other three are merely nominal stockholders in the Doe Run Company. We would not intimate that the officials of the Doe Run Company are not honorable men. We mention the incongruous position in which such a trusteeship would place them only for the reason that it evidences the fact that the law never intended that such an incongruity should exist. [*Hill v. Rich Hill Coal Mining Co., 119 Mo. 9, 23, 24 S.W. 223.]* It never would exist in a bona-fide dissolution proceeding. [*685] The fact that a court of equity would probably have power to appoint other trustees, and in this way, or perhaps by other methods, prevent injustice to the minority stockholders (a question about which we express no opinion) may indicate a remedy, but does not lessen the force of the argument. This predicament, abhorrent to the law, grows out of the attempt to distort the statute from its plain purpose, and to do by indirection what cannot be done directly. It cannot be that the Legislature intended that a statute which was designed merely to facilitate a bona-fide dissolution should be used as an easy [***64] method of affecting a consolidation, particularly when one of the avowed purposes of this proceeding is to enable the interested corporations to evade certain revenue laws of the State. Dissolution means a going out of business, a cessation of business activity -- business death, in short. Sections 2996 to 3000, supra, were designed to furnish means of accomplishing that end. Consolidation implies continued life and increased activity. "Over all things certain, this is sure indeed" that business death is the thing farthest from the intention of the St. Joseph Company, and the will of the St. Joseph Company is the will that controls this proceeding, though it is brought in the name of the Doe Run Company. "The voice is Jacob's voice, but the hands are the hands of Esau." To use a somewhat gruesome metaphor, what is here being attempted is not corporate suicide, but corporate homicide. It is equally plain that the statute by which the St. Joseph Company seeks to attain that end was never intended to be used to permit one corporation to take the life of another. We think that the statutes relating to the

dissolution of corporations contemplates a dissolution in fact as well as in name. [***65] Dissolution is used in its ordinary sense and meaning, and is to be so construed. As defined by Webster, dissolution means, "act or process of dissolving or breaking up; separation into component parts; disorganization." Consolidation, by the same authority, is "solidification; combination; strengthening." [HN9] Whether [*686] or not a decree of dissolution should be granted in a given case, then (other requirements of the law being satisfied), depends upon the simple question of the good faith of the proceeding, and that is a question to be determined upon the facts of each particular case. A determination of the question of good faith does not necessarily involve an inquiry into the motives of either group of stockholders with reference to the effect of dissolution upon themselves or upon the other group. By saying that the proceeding must be in good faith, [**612] we mean that it must appear upon the face of the record (using that term in its broad sense), that the suit for dissolution is such a suit as is contemplated by our statutes; that is, that the dissolution sought must be a bona-fide dissolution, intended to culminate in a cessation of corporate life and a distribution [***66] of corporate assets. Anything else is a fraud upon the law which the courts will not countenance. If our statutes relating to the consolidation and dissolution of corporations are not sufficiently elastic to meet the needs of modern business, relief from that evil must be sought through new legislation rather than through an erratic and dubious construction of existing laws. In the case in hand we think (speaking in legal phraseology, and not as implying moral obliquity) that the proceeding is not in good faith. It is an attempt to use the law of dissolution as a law of consolidation. This cannot be done. This view has been sustained in other jurisdictions upon reasoning so terse, lucid and comprehensive, and upon facts so closely analogous that we feel justified in adopting the arguments as our own, and we therefore quote liberally from them.

The identical question here involved was presented, under a statute very similar to our own, in a suit brought for the dissolution of a corporation in the State of Washington. The Supreme Court of that state said:

"If it appeared from the testimony in this case that this was an attempt to dissolve the corporation, and legal requirements had [***67] been complied with, the duty of [*687] the court to adjudicate such dissolution would be plain; for it is no doubt true that, when the stockholders entered into the contract by which they obtained their stock, they must be held to have contracted with reference to the law which gave a two-thirds majority of the stockholders power to dissolve the corporation.

"But as we read the record in the case, there was no attempt to dissolve the corporation, and it cannot be said to have been within the contemplation of the contract that a two-thirds majority, or any majority, had a right to juggle with the corporation and the law. The object of the law is a beneficial one, and is to prevent a small minority from unduly influencing the corporation and preventing its dissolution, under circumstances unfavorable to its existence. But the record here shows conclusively that no real cause for dissolution existed; that the corporation was making money and prospering in every way; and, while this would probably not be a sufficient reason why a court should not grant the dissolution, it bears upon the question of whether or not there was an actual intent to disincorporate. . . . It is not enough [***68] to say that appellant received all his stock was worth. He embarked in this business, and a right to stay in the business during the expressed life of the corporation, or until it was dissolved by a fair compliance with the law." [*Theis v. Spokane Falls Gaslight Co., 34 Wash. 23, 28, 29, 30, 74 P. 1004.*] In the same case the court quoted with approval the following paragraph from Cook on Corporations:

"And certainly if the purpose of such dissolution is not the bona-fide discontinuance of the business, but is the continuance of that business by another new corporation, then the rule is that a dissenting stockholder may prevent the sale, even though it is made with a view of dissolution of the corporation. This is the law as laid down in the well-considered case of *Kean v. Johnson, 9 N.J. Eq. 401*. Such a dissolution is practically a fraud on dissenting stockholders. It seeks to do indirectly what cannot legally be done directly." [Cook on Corporations, sec. 670.]

[*688] It should be noted that in the Theis case, the Washington statute peremptorily declares that upon the adoption of a proper resolution by two-thirds of the stockholders, the court "*shall* enter an order". [***69] of dissolution. Our statute, as we have said, provides merely that the court *may* enter such an order.

A similar question arose in the case of *Ervin v. Oregon Railway & Navigation Co., 27 F. 625, 629* and 630, wherein the court, in referring to the promoters of a somewhat similar plan of consolidation, said:

"They never contemplated winding up the business of the old company, and distributing the assets among its stockholders, otherwise than as a formal mode of doing what they could not do by legal sanction. What they intended to do, and what they practically did, was to effect a consolidation of the old company with the new, using as the means for the end the statutory power which authorized a majority of stockholders to dissolve the corporation, settle its business, and dispose of its property. . . .

"It cannot be denied that minority stockholders are bound hand and foot to the majority in all matters of legitimate administration of the corporate affairs; and the

courts are powerless to redress many forms of oppression practiced upon the minority under the guise of legal sanction, which fall short of actual fraud. This is a consequence of the implied contract of association, [***70] by which it is agreed, in advance, that a majority shall bind the whole body as to all transactions within the scope of the corporate powers. But it is also of the essence of the contract that the corporate powers shall only be exercised to accomplish the objects for which they were called into existence, and that the majority shall not control those powers to pervert or destroy the original purposes of the corporation. [Livingston v. Lynch, 4 Johns. Ch. 573; Hutton v. Scarborough Cliff Co., 2 Drew. & Sm. 514; *Brewer v. Boston Theatre, 104 Mass. 378*; [*689] *Kean v. Johnson, 9 N.J. Eq. 401*; *Rollins v. Clay, 33 Me. 132*; Clinch v. Financial Corp., 4 Law Rep. Ch. 117; *Clearwater v. Meredith, 1 Wall. 25, 17 L. Ed. 604.]* It is for this reason that the majority cannot consolidate the corporation with another corporation and impose responsibilities and hazards upon the minority not contemplated by the original enterprise, unless express statutory authority for this purpose is conferred upon the majority. It is no more [**613] repugnant to the purposes of the association to permit the majority to merge and consolidate the corporation with another corporation than it is to permit [***71] them to dissolve it, and abandon the enterprise for which it is created, when no reasons of expediency require this to be done. A dissolution under such circumstances is an abuse of the powers delegated to the majority. It is no less a wrong because accomplished by the agency of legal forms."

A statute very similar to our own is found in the laws of the State of Michigan. As in Washington, the Michigan statute says that upon certain facts being made to appear, "a decree *shall* be entered." A suit was brought under that statute for the dissolution of a mining corporation. The right to dissolve was given by the statute whenever the directors should for any reason deem it beneficial to the stockholders that the corporation should be dissolved. The directors of the petitioning corporation in that instance so resolved and filed dissolution proceedings accordingly. It was alleged in the petition, in substance, that another corporation had offered to bind itself to purchase the property at a price which would enable the stockholders of the petitioning corporation to obtain a larger annual return in perpetuity than could be realized by them from the operation of the corporation during [***72] the lifetime of the mine. The court said:

"We therefore have before us a petition to dissolve a corporation under the statute in order that a holding company, another corporation, may acquire, by force of dissolution proceedings, what it has been unable to [*690] acquire by purchase or exchange, in the open market. It does not appear to be the intention to dissolve the corporation and discontinue the business of mining and distribute its assets among the stockholders, because beneficial to them, nor does it appear to be desired because of any inherent physical or financial weakness in the organization or its property, but it appears to be desired for the reason that the Copper Range Company may become the owner of all the shares instead of a portion of them. The idea back of this desire is said to be that the cost of operation can be materially reduced if the property can be operated as a unit with Baltic and Champion. This may be so, and perhaps is commendable as a business proposition, but it is no measure of respondent's rights. . . .

"It is not conceivable that the Legislature ever intended that the statute should be used for such a purpose. To give the statute this construction [***73] would open the way to the majority interest of every corporation in the state to dispose of an offensive minority in the same way if it saw fit. Such a construction would be injurious to the public interest and not beneficial to the stockholders as a whole. For a similar case upon the law and facts, and one which answers many of the arguments of the petitioner in this case, see *Theis v. Spokane Falls Gaslight Co., 34 Wash. 23, 74 P. 1004*." [*In re Paine, 166 N.W. 1036, 1038, 1039.*]

Since the question here involved is new in this State and is one of importance, we may be pardoned, perhaps, for prolonging this opinion by quoting from another case strikingly similar to the case in hand. In *Riker & Son v. United Drug Co., 79 N.J. Eq. 580, 82 A. 930*, decided in 1912, the board of directors of the United Drug Company, a New Jersey corporation, incorporated another company by the same name under the laws of Massachusetts, and the latter company then offered to purchase all of the property and assets of the New Jersey corporation, subject to all of its indebtedness, and to pay therefor by issuing stock of the Massachusetts corporation. A dissolution [*691] of the New Jersey corporation [***74] was contemplated as one of the steps in the reorganization. Certain objecting stockholders of the New Jersey corporation sought to enjoin these proceedings, but were denied relief in the trial court, and appealed. The New Jersey Court of Errors and Appeals said:

"Manifestly the prime purpose of the scheme outlined in this communication is not the winding up of the New Jersey corporation and the distribution of its assets, or the proceeds of the sale thereof, among its stockholders, but the absorption of that company by the Massachusetts corporation, the transfer not only of its assets but of its business, to that corporation, and the future carrying on of that business by the Massachusetts corporation under the name of the defendant company. The scheme, in its essence, whatever it may be in form, is not a plan for the reorganization of the New Jersey company, nor

even for the winding up of its business and its dissolution within the meaning of the latter words as used by our Corporation Act, but is a scheme for its merger into or consolidation with the Massachusetts corporation. [*State v. Atlantic City and Shore Railroad Co., 77 N.J.L. 465, 483, 72 A. 111.*]

"Consequently, the fundamental [***75] question now to be decided is whether a corporation of this state, organized under our General Corporation Act, may legally be merged into or consolidated with a corporation created by and organized under the laws of a sister state. The answer to this question seems to us not to be in doubt. As was said by this court in *Colgate v. United States Leather Co., 75 N.J. Eq. 229, 72 A. 126*, the power of corporations to consolidate and merge is not to be implied, and exists only by virtue of plain legislative enactment; and no statute of our state can be found which authorizes the proposed scheme. The only right given, by our legislature, to two or more corporations to merge or consolidate into a single corporation, is expressly limited to those which are organized under the laws of our own State. [Revised Corporation Act, Paragraph 104; P. L. 1896, p. 309.] [*692] The proposed plan for the so-called 'reorganization' of the defendant company is, therefore, in violation of the law of the state whose creature it is; and, this being so, any stockholder who refuses to consent thereto is entitled to the aid of a court of equity to prevent its being carried into execution. Each stockholder [***76] of the company owns a share on its property and assets, and is entitled to have [**614] a proportionate share in its profits. They have invested their capital in it, and in it alone, and they are entitled to every dollar that it earns. This is the agreement of the stockholders among themselves. They each contract with the other that their money shall be employed for the purpose specified in the certificate of incorporation. and for no other purpose, and that the profits of the enterprise shall be ratably apportioned among them. In the absence of legislation permitting a variation of the provisions of this fundamental contract, by vote of a majority of the stockholders, no majority, however large, has a right to divert any part of the joint capital, however small, to any purpose not consistent with and growing out of this original, fundamental agreement. [*Black v. Delaware & Raritan Canal Co., 24 N.J. Eq. 455, 463; Mills v. Central Railroad Co. of New Jersey, 41 N.J. Eq. 1, 2 A. 453; Colgate v. United States Leather Co., supra.*]

"The scheme, in the carrying out of which the dissolution of the company is a proposed step, is a fraud upon the statute (the word is used in a legal, [***77] not a moral sense); and every act done in the furtherance thereof, no matter whether it be legal, standing alone, or not, is equally a fraud upon the statute. This being so, the complainants were entitled to an injunction to restrain the proposed invasion of their rights under the contract of incorporation, as soon as it was made manifest that such invasion was in fact contemplated." [*Riker & Son, supra, 582* et seq.]

[*693] The case was reversed and remanded with instructions to enjoin the proposed proceeding. All of the twelve members of the court concurred.

The same reasoning upon the same proposition may be found in *White v. Kincaid, 149 N.C. 415, 63 S.E. 109; New Orleans, etc., R. R. Co. v. Harris, 27 Miss. 517*; Abbott v. American Hard Rubber Co., 33 Barb. 579; *Forrester v. B. & M. Min. Co., 21 Mont. 544, 562, 55 P. 229*, and in numerous cases from other states. The statutes upon this subject differ widely in the various states, and the decisions must be studied in the light of those statutes. In some cases, the requisite number of stockholders is given an absolute right to a decree of dissolution, as in Louisiana; in others, as in Washington and Michigan, though the statute [***78] is peremptory, the court nevertheless exercises a discretion, as we have pointed out, and in still other states, as in Missouri, the court *may* grant such a decree upon the vote of a given majority of the stockholders.

In fairness, it should also be said that numerous and respectable authorities lend color to respondent's contention, but none is so pertinent upon the facts here involved as the cases above cited, which support the contrary view. The cases which tend to support respondent's contention are *Bowditch v. Jackson Co., 76 N.H. 351, 82 A. 1014*, Am & Eng. Ann. Cases, 1913A 366; *Tanner v. Lindell Ry. Co., 180 Mo. 1, 79 S.W. 155*; Treadwell v. Salisbury Mfg. Co., 7 Gray 393, 66 Am. Dec. 390; and a line of authorities cited in those cases. The case of *Tanner v. Lindell Ry. Co., supra*, is distinguishable from the case at bar in material respects, both as to the law and the facts. For one thing, the dissenting stockholders in that case declined to reveal the amount of stock held by them, and the court treated them as the owners of but one share each of the aggregate par value of $ 200, and, in effect, applied the maxim, "*De minimis lex non curat.*" In the case at bar, appellants' [***79] stock is shown by the record to be worth approximately $ 165,000. Further, in the Tanner case the plaintiffs stood by and [*694] saw all of the assets of the Lindell Railway Company sold and transferred to another corporation and remained silent until after the purchasing corporation had leased all of the property, amounting to "many millions of dollars" to still another corporation, and had also issued bonds in the sum of $ 45,000,000, secured by a mortgage upon the property purchased from the Lindell Company and other property. The plaintiffs sought to have all of these proceedings rescinded and cancelled solely upon the bare legal proposition that the Lindell Railway Company had

no power to dispose of all of its assets without the unanimous consent of its stockholders. The good faith of the proceedings was not questioned. This court thereupon said: "There is nothing in a court of equity for the plaintiffs upon the case above stated." The decision was obviously just, but it turns upon a widely different state of facts from that with which we are called upon to deal in this case, and announces no principle in conflict with those here announced. We will not prolong this opinion [***80] by discussing the cases from other jurisdictions cited by respondent, but, (leaving that task to the discriminating reader), will content ourselves with saying that to us they have not brought conviction.

We have endeavored to weigh the authorities well. As a result, we are persuaded not only that the weight of authority is in favor of the conclusion herein announced, but what is more important, we think our conclusions are in accord with right reason and even-handed justice — and that in law "*is the immediate jewel of the soul.*"

Something is said in the briefs about the difficulty or impossibility of restoring the *status quo ante*. That difficulty, if it exists, is the result of an attempt to wrest the law from its purpose, as we construe it, and to violate its spirit while professing to observe its letter. Such attempts do not commend themselves to the indulgence, nor deserve the assistance of the court. But we think the difficulty is exaggerated. The St. Joseph Company is in undisputed ascendency in both [**615] corporations, and [*695] we incline to the belief that it has loosed no force which it cannot bind. Both corporations have always been closely allied [***81] and dominated by certain "family groups." There seems to have been no material shifting of power. But these questions we do not now hold in judgment. Numerous and interesting questions which we have not discussed have been ably briefed and argued in briefs aggregating nearly one thousand pages. These questions it is not now necessary to decide, and prudence dictates that we should reserve our views upon them until their determination becomes necessary.

After careful study, we have come, not without difficulty, but at last with confidence, to the conclusion that, for the reasons stated, this cause should be reversed. It is so ordered. All concur; *Williams J.*, in the result. *Woodson, J.*, absent.

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MEMORANDUM

OF

MINE AND MILL OPERATIONS

OF THE

ST. JOSEPH LEAD CO.

FOR THE

YEAR

1934

PRODUCTION

Div.	On Hand 1-1-34	Mined 12 Months	Total	On Hand 1-1-35	Milled 12 Months	Tons Dry Concentrates Produced	Tons Lead Content	Lbs Lead in Concentrate Per Ton Ore Milled 1934	1933
B.T.	180	320,520	320,700	80	320,620	10,689.5685	8,041.3915	50.16	57.51
Lwd.	550	355,127	355,677	100	355,577	15,198.6915	11,607.0650	65.29	67.93
Des.	200	817,855	818,055	0	818,055	35,883.7410	27,033.6560	66.09	76.88
Rms.	0	135,216	135,216	0	135,216	5,837.7500	4,324.4440	63.96	71.76
Fed.	4,900	814,336	819,236	5,000	814,236	30,833.9075	23,040.5760	56.59	63.62
Total	5,830	2,443,054	2,448,884	5,180	2,443,704	98,443.6585	74,047.1325	60.60	68.33

PROSPECTING

	B. T.	Ldw.	Des.	Rms.	Fed.	Total
Total Number of Holes Drilled - - - - - -	20	311	0	65	179	5
Total Number of Feet Drilled, Company - -	6,668	110,054	0	22,530	109,866	249,1
Total Number of Feet Drilled, Optioned - -	0	0	0	0	0	
Holes Drilled on Company Land - - - - - -	20	311	0	65	179	5
Holes Drilled on Optioned Land - - - - -	0	0	0	0	0	
Pay -	0	39	0	10	18	
Indicative - - - - - - - - - - - - - - - - -	0	23	0	6	19	
Traces - - - - - - - - - - - - - - - - - - -	7	129	0	23	135	2
Blank - - - - - - - - - - - - - - - - - - -	11	117	0	25	0	1
Lost or Abandoned - - - - - - - - - - - - -	2	3	0	1	7	

DEVELOPMENT

	B. T.	Ldw.	Des.	Rms.	Fed.	Total
Total Lineal Feet of Drifting - - - - -	1,533	1,516	2,606	885	6,599	13,1
Total Lineal Feet of Raises - - - - - -	158	29	254	0	295	7
Total Lineal Feet of Inclines - - - - -	43	0	0	0	0	
Total Lineal Feet of Shaft Sinking - - -	0	0	0	0	0	
Totals - - - - - - - - - - - - - - - - - -	1,734	1,545	2,860	885	6,894	13,9
Tons Ore Mined per foot advanced - - - -	184.84	229.86	285.96	152.79	118.12	175.

AREAS MINED

	Virgin Area			Reworked Area		
Mine	Acres	Tons Ore	Tons Per Acre	Acres	Tons Ore	Tons Per Acre
Bonne Terre	2.320	115,052	49,591	3.884	205,468	52,901
Leadwood	4.198	277,756	66,164	1.638	77,371	47,235
Desloge	5.806	447,422	77,062	4.012	370,433	92,331
Rivermines	2.307	106,979	46,371	.899	28,237	31,409
Federal	11.055	543,369	49,151	6.922	270,967	39,146
Total	25.688	1,490,578	58,031	17.355	952,476	54,882

	Total Acres Mined	Tons of Lead In Concentrates	Tons of Lead Per Acre
Bonne Terre	6.204	8,041.3915	1,296.16
Leadwood	5.836	11,607.0650	1,988.87
Desloge	9.818	27,033.6560	2,753.48
Rivermines	3.206	4,324.4449	1,348.86
Federal	17.977	23,040.5760	1,281.67
Total	43.041	74,047.1325	1,720.39

MINING & MILLING PRODUCT, CALENDAR YEAR 1934

	Bonne Terre	Leadwood	Desloge	Rivermines	Federal	Total
Tons of Ore Mined	320,520	355,127	817,855	135,216	814,336	2,443,054
Tons of Ore Milled	320,620	355,577	818,055	135,216	814,236	2,443,704
GRAVITY CONCENTRATES:						
Tons Dry Weight	6,574.3825	10,286.4185	23,362.5770	3,321.1725	16,878.3750	60,422.9255
Tons Lead Content	5,104.3480	8,062.5105	18,104.1035	2,522.8460	12,993.8200	46,787.6280
FLOTATION CONCENTRATES:						
Tons Dry Weight	4,115.1860	4,912.2730	12,521.1640	2,516.5775	13,955.5325	38,020.7330
Tons Lead Content	2,937.0435	3,544.5545	8,929.5525	1,801.5980	10,046.7560	27,259.5045
TOTAL CONCENTRATES:						
Tons Dry Weight	10,689.5685	15,198.6915	35,883.7410	5,837.7500	30,833.9075	98,443.6585
Tons Lead Content	8,041.3915	11,607.0650	27,033.6560	4,324.4440	23,040.5760	74,047.1325

MILLING

Mill	Tons Ore Milled	Total Tons Product	Tons Lead Content
Bonne Terre	320,620	10,689.5685	8,041.3915
Leadwood	604,499	29,753.7785	22,680.6010
Desloge	488,768	17,468.6535	13,095.7545
Federal	1,120,534	43,858.8460	32,878.9295
Total	2,534,421	101,750.8465	76,696.6765

Included in the above is Flotation Product as follows:

		Flotation Cost		Dry Slimes Treated			Concentrates Produced			Lead in Concentrates	
Mill	Tons Ore Milled	Total	Per Ton Ore Milled	Tons	Cost Per Ton	% of Ore Milled	Tons Dry	Cost Per Ton	% Pb	Tons	Cost Per Ton
B.T.	320,620	$ 23,855.52	$ .074	153,188	$ .154	47.78	4,115.1860	$ 5.748	71.37	2,937.0436	$ 8.054
Lwd.	604,499	50,876.71	.084	331,785	.153	54.89	9,572.8760	5.315	72.10	6,902.4890	7.371
Des.	488,768	41,681.16	.085	270,890	.154	55.42	6,186.8800	6.737	70.48	4,360.6325	9.55[illegible]
Fed.	1,120,534	79,119.51	.071	652,619	.121	58.24	20,674.9695	5.845	72.14	14,843.5650	5.33[illegible]
GRAND TOTAL	2,534,421	$195,332.90	$ .077	1,408,482	$ .139	55.57	40,449.9115	$ 4.829	71.80	29,043.7300	$ 6.721

POWER - FOR MINING & MILLING DIVISIONS - YEAR 1934

	Desloge Power Plant	Purchased from Union Elec. L&P Co.	Total
KWH Output, A. C.	0	87,351,700	87,351,7
KWH Output per Hour (8,760 Hours) Average			9,9

Power Consumed:	Bonne Terre	Leadwood	Desloge	Rivermines	Federal	Total
KWH Actual A.C.Consumed	9,748,288	17,950,651	10,158,875	14,332,022	29,969,577	82,159,4
KWH Line Loss	641,958	787,779	303,152	269,897	1,036,260	3,039,0
KWH Meter Difference	138,763	590,410	88,632	367,970	616,202	1,852,0
KWH Total	10,579,009	19,328,840	10,550,709	14,969,889	31,622,039	87,050,4
Tons Ore Mined	320,520	604,049	488,568	457,561	1,116,214	2,986,9
KWH Used per ton Ore Mined	33.01	32.00	21.60	32.72	28.33	29.
KWH Consumed per Hour (8,760 Hours) Average						9,9
KWH Custom Light & Power (BTF&CCo. & BT Hosp.)	109,499	11,430	5,183	8,479	10,443	145,0
National Lead Company					156,180	156,1
Grand Total KWH Consumed	10,688,508	19,340,270	10,555,892	14,978,368	31,788,662	87,351,7
Grand Total KWH Consumed Per Hour (8,760 Hours) Avge.						9,9

	Desloge Power Plant	Purchased from Union Elec. L&P Co.	Total
Production Cost:			
Power Cost - Total	* $ 27,375.73	$ 539,811.05	$ 567,186.
Power Cost per KWH Output Power Plant Switchboard, Average			$ .0064

* Includes $ 26,647.00 for Unused Gas per contract with Mississippi River Fuel Corporation. Balance is Suspension Expense.

ST. JOSEPH LEAD COMPANY

ADDITIONS & BETTERMENTS DURING YEAR 1934

AFE No.	Name of Project	Amount Authorized to 12-31-34	Amount Expended to 12-31-33	Amount Expended in 1934	Total Cost to 12-31-34
	Bonne Terre Division:				
	1 - 6 Room Bungalow and Car Garage, Lot 1, Block 1	0	0	$ 3,200.00	$ 3,200.00
	Leadwood Division:				
	1 - 4 Room Dwelling and Outbuildings, Lot 4, Block 57	0	0	$ 2,377.25	$ 2,377.25
	1 - 3 Room Dwelling and Outbuildings, Lot 15, Block 42	0	0	472.50	472.50
	Total			$ 2,849.75	$ 2,849.75
	Federal Division:				
	U. G. Haulage Equipment; Locomotives and Motor Generator Sets	0	0	$17,485.56	$ 17,485.56

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MEMORANDUM

OF

MINE AND MILL OPERATIONS

OF THE

ST. JOSEPH LEAD CO.

FOR THE

YEAR

1934

PRODUCTION

Div.	On Hand 1-1-34	Mined 12 Months	Total	On Hand 1-1-35	Milled 12 Months	Tons Dry Concentrates Produced	Tons Lead Content	Lbs Lead in Concentrate Per Ton Ore Milled 1934	1933
B.T.	180	320,520	320,700	80	320,620	10,689.5685	8,041.3915	50.16	57.51
Lwd.	550	355,127	355,677	100	355,577	15,198.6915	11,607.0650	65.29	67.93
Des.	200	817,855	818,055	0	818,055	35,883.7410	27,033.6560	66.09	76.85
Rms.	0	135,216	135,216	0	135,216	5,837.7500	4,324.4440	63.96	71.76
Fed.	4,900	814,336	819,236	5,000	814,236	30,833.9075	23,040.5760	56.59	63.62
Total	5,830	2,443,054	2,448,884	5,180	2,443,704	98,443.6585	74,047.1325	60.60	68.33

PROSPECTING

	B. T.	Ldw.	Des.	Rms.	Fed.	Total
Total Number of Holes Drilled - - - - - -	20	311	0	65	179	575
Total Number of Feet Drilled, Company - -	6,668	110,054	0	22,530	109,866	249,118
Total Number of Feet Drilled, Optioned - -	0	0	0	0	0	0
Holes Drilled on Company Land - - - - - -	20	311	0	65	179	575
Holes Drilled on Optioned Land - - - - -	0	0	0	0	0	0
Pay -	0	39	0	10	18	67
Indicative - - - - - - - - - - - - - - - - -	0	23	0	6	19	48
Traces - - - - - - - - - - - - - - - - - - -	7	129	0	23	135	294
Blank - - - - - - - - - - - - - - - - - - -	11	117	0	25	0	153
Lost or Abandoned - - - - - - - - - - - - -	2	3	0	1	7	13

DEVELOPMENT

Total Lineal Feet of Drifting - - - - -	1,633	1,516	2,606	885	6,599	13,139
Total Lineal Feet of Raises - - - - - -	158	29	254	0	295	736
Total Lineal Feet of Inclines - - - - -	43	0	0	0	0	43
Total Lineal Feet of Shaft Sinking - - -	0	0	0	0	0	0
Totals - - - - - - - - - - - - - - - - - -	1,734	1,545	2,860	885	6,894	13,918
Tons Ore Mined per foot advanced - - - -	184.84	229.86	285.96	152.79	118.12	175.53

AREAS MINED

	Virgin Area			Reworked Area		
Mine	Acres	Tons Ore	Tons Per Acre	Acres	Tons Ore	Tons Per Acre
Bonne Terre	2.320	115,052	49,591	3.884	205,468	52,901
Leadwood	4.198	277,756	66,164	1.638	77,371	47,235
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Total	25.688	1,490,578	58,031	17.355	952,476	54,882

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MINING & MILLING PRODUCT, CALENDAR YEAR 1934

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Tons Dry Weight	6,574.3825	10,286.4185	23,362.5770	3,321.1725	16,878.3750	60,422.9255
Tons Lead Content	5,104.3480	8,062.5105	18,104.1035	2,522.8460	12,993.8200	46,787.6280
FLOTATION CONCENTRATES:						
Tons Dry Weight	4,115.1860	4,912.2730	12,521.1640	2,516.5775	13,955.5325	38,020.7330
Tons Lead Content	2,937.0435	3,544.5545	8,929.5525	1,801.5980	10,046.7560	27,259.5045
TOTAL CONCENTRATES:						
Tons Dry Weight	10,689.5685	15,198.6915	35,883.7410	5,837.7500	30,833.9075	98,443.6585
Tons Lead Content	8,041.3915	11,607.0650	27,033.6560	4,324.4440	23,040.5760	74,047.1325

MILLING

Mill	Tons Ore Milled	Total Tons Product	Tons Lead Content
Bonne Terre	320,620	10,689.5685	8,041.3915
Leadwood	604,499	29,733.7785	22,680.6010
Desloge	488,768	17,468.6535	13,095.7545
Federal	1,120,534	43,858.8460	32,878.9295
Total	2,534,421	101,750.8465	76,696.6765

Included in the above is Flotation Product as follows:

		Flotation Cost		Dry Slimes Treated			Concentrates Produced			Lead in Concentrates	
Mill	Tons Ore Milled	Total	Per Ton Ore Milled	Tons	Cost Per Ton	% of Ore Milled	Tons Dry	Cost Per Ton	% Pb	Tons	Cost Per Ton
B.T.	320,620	$ 23,655.52	$ .074	153,188	$ .154	47.78	4,115.1860	$ 5.748	71.37	2,937.0435	$ 8.054
Lwd.	604,499	50,876.71	.084	331,785	.153	54.89	9,572.8760	5.315	72.10	6,902.4890	7.371
Des.	488,768	41,881.16	.085	270,890	.154	55.42	6,186.8800	6.737	70.48	4,360.6325	9.659
Fed.	1,120,534	79,119.51	.071	652,619	.121	58.24	20,674.9695	3.845	72.14	14,843.5650	5.330
GRAND TOTAL	2,534,421	$195,332.90	$ .077	1,408,482	$ .139	55.57	40,449.9115	$ 4.829	71.80	29,043.7300	$ 6.725

POWER - FOR MINING & MILLING DIVISIONS - YEAR 1934

	Desloge Power Plant	Purchased from Union Elec. L&P Co.	Total
KWH Output, A. C.	0	87,351,700	87,351,700
KWH Output per Hour (8,760 Hours) Average			9,972

Power Consumed:	Bonne Terre	Leadwood	Desloge	Rivermines	Federal	Total
KWH Actual A.C.Consumed	9,748,288	17,950,651	10,158,875	14,332,022	29,969,577	82,159,413
KWH Line Loss	641,958	787,779	303,152	209,837	1,036,260	3,039,046
KWH Meter Difference	188,763	590,410	88,682	367,970	616,202	1,852,027
KWH Total	10,579,009	19,328,840	10,550,709	14,969,889	31,622,039	87,050,486
Tons Ore Mined	320,520	604,049	488,568	457,561	1,116,214	2,986,912
KWH Used per ton Ore Mined	33.01	32.00	21.60	32.72	28.33	29.14
KWH Consumed per Hour (8,760 Hours) Average						9,937
KWH Custom Light & Power (BTF&CCo. & BT Hosp.)	109,499	11,430	5,183	8,479	10,443	145,034
National Lead Company					156,180	156,180
Grand Total KWH Consumed	10,688,508	19,340,270	10,555,892	14,978,368	31,788,662	87,351,700
Grand Total KWH Consumed Per Hour (8,760 Hours) Avge.						9,972

Production Cost:	Desloge Power Plant	Purchased from Union Elec. L&P Co.	Total
Power Cost - Total	* $ 27,375.73	$ 539,811.05	$ 567,186.78
Power Cost per KWH Output Power Plant Switchboard, Average			$ .006493

* Includes $ 26,647.00 for Unused Gas per contract with Mississippi River Fuel Corporation. Balance is Suspension Expense.

ST. JOSEPH LEAD COMPANY

ADDITIONS & BETTERMENTS DURING YEAR 1934

AFE No.	Name of Project	Amount Authorized to 12-31-34	Amount Expended to 12-31-33	Amount Expended in 1934	Total Cost to 12-31-34
	Bonne Terre Division:				
	1 - 6 Room Bungalow and Car Garage, Lot 1, Block 1	0	0	$ 3,200.00	$ 3,200.00
	Leadwood Division:				
	1 - 4 Room Dwelling and Outbuildings, Lot 4, Block 57	0	0	$ 2,377.25	$ 2,377.25
	1 - 3 Room Dwelling and Outbuildings, Lot 15, Block 42	0	0	472.50	472.50
	Total			$ 2,849.75	$ 2,849.75
	Federal Division:				
	U. G. Haulage Equipment; Locomotives and Motor Generator Sets	0	0	$17,485.56	$ 17,485.56

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MEMORANDUM

OF

MINE AND MILL OPERATIONS

OF

THE DOE RUN LEAD COMPANY

FOR THE

YEAR

1934

PRODUCTION

Division	On Hand 1-1-34	Mined 12 Months	Total	On Hand 1-1-35	Milled 12 Months	Tons Dry Concentrates Produced	Tons Lead Content	Lbs Lead In Concentrate Per Ton Ore Milled 1934	193
Rivermines	1,900	118,226	120,126	0	120,126	5,629.3090	4,090.4380	68.10	64.2
Federal	0	425,632	425,632	0	425,632	17,707.7525	13,272.5505	62.37	62.9
Total	1,900	543,858	545,758	0	545,758	23,337.0615	17,362.9885	63.63	63.4

PROSPECTING

Total Number Holes Drilled	34
Total Number Feet Drilled	18,503
Holes Drilled on Company Land	34
Holes Drilled on Optioned Land	0

Pay Holes	6
Indicative	2
Traces	22
Blank	0
Lost or Abandoned	4
Total	34

DEVELOPMENT

Total Lineal Feet of Drifting	3,179
Total Lineal Feet of Raises	81
Total Lineal Feet of Inclines	0
Total Lineal Feet of Shaft Sinking	0
Grand Total	3,260

Tons Ore Mined Per Foot Advanced	166.83

AREAS MINED

	Virgin Area			Reworked Area		
Division	Acres	Tons Ore	Tons Per Acre	Acres	Tons Ore	Tons Per Acre
Rivermines	.988	63,676	64,449	1.151	54,550	47,394
Federal	3.852	254,745	66,133	2.795	170.887	61,140
Total	4.840	318,421	65,789	3.946	225,437	57,130

	Total Acres Mined	Tons of Lead In Concentrates	Tons of Lead Per Acre
Rivermines	2.139	4,090.4380	1,912.31
Federal	6.647	13,272.5505	1,996.77
Total	8.786	17,362.9885	1,976.21

MINING & MILLING PRODUCT, YEAR 1934

	Rivermines	Federal	Total
Tons of Ore Mined	118,226	425,632	543,858
Tons of Ore Milled	120,126	425,632	545,758
GRAVITY CONCENTRATES:			
Dry Weight - - - - - Tons	3,031.6220	9,394.1800	12,425.8020
Lead Content - - - - Tons	2,281.6095	7,275.7825	9,557.3920
FLOTATION CONCENTRATES:			
Dry Weight - - - - - Tons	2,597.6870	8,313.5725	10,911.2595
Lead Content - - - - Tons	1,808.8285	5,998.7680	7,805.5965
TOTAL CONCENTRATES:			
Dry Weight - - - - - Tons	5,629.3090	17,707.7525	23,337.0615
Lead Content - - - - Tons	4,090.4380	13,272.5505	17,362.9885

M I L L I N G

	Tons Ore Milled	Total Tons Product	Tons Lead Content
Rivermines Mill -	455,041	20,029.8735	14,713.4445

Included in the above is Flotation Product as follows:

	Flotation Cost		Dry Slimes Treated			Concentrates Produced			Lead in Concentrates	
Tons Milled	Total	Per Ton Ore Milled	Tons	Cost Per Ton	% Of Ore Milled	Tons Dry	Cost Per Ton	% Pb	Tons	Cost Per Ton
455,041	$ 32,414.85	$ .071	285,955	$ .113	62.84	8,482.0810	$ 3.822	70.99	6,021.3710	$ 5.383

POWER - FOR MINING & MILLING DIVISIONS - YEAR 1934

	Desloge Power Plant	Purchased from Union Elec. L&P Co.	Total
KWH Output, A. C.	0	87,351,700	87,351,700
KWH Output per Hour (8,760 Hours) Average			9,972

Power Consumed:	Bonne Terre	Leadwood	Desloge	Rivermines	Federal	Total
KWH Actual A.C.Consumed	9,748,288	17,950,651	10,158,875	14,332,022	29,969,577	82,159,413
KWH Line Loss	641,958	787,779	303,152	269,897	1,036,260	3,039,046
KWH Meter Difference	188,763	590,410	88,682	367,970	616,202	1,852,027
KWH Total	10,579,009	19,328,840	10,550,709	14,969,889	31,622,039	87,050.486
Tons Ore Mined	320,520	604,049	488,568	457,561	1,116,214	2,986,912
KWH Used per ton Ore Mined	33.01	32.00	21.60	32.72	28.33	29.14
KWH Consumed per Hour (8,760 Hours) Average						9,937
KWH Custom Light & Power (BTF&CCo. & BT Hosp.)	109,499	11,430	5,183	8,479	10,443	145,034
National Lead Company					156,180	156,180
Grand Total KWH Consumed	10,688,508	19,340,270	10,555,892	14,978,368	31,788,662	87,351,700
Grand Total KWH Consumed Per Hour (8,760 Hours) Avge.						9,972

Production Cost:	Desloge Power Plant	Purchased from Union Elec. L&P Co.	Total
Power Cost - Total	* $ 27,375.73	$ 539,811.05	$ 567,186.78
Power Cost per KWH Output Power Plant Switchboard, Average			$ .006493

* Includes $ 26,647.00 for Unused Gas per contract with Mississippi River Fuel Corporation. Balance is Suspension Expense.

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Gilbert B.

MINUTES OF A SPECIAL MEETING OF STOCKHOLDERS OF

THE DOE RUN LEAD COMPANY.

Bonne Terre, Mo.,
January 3, 1936.

Pursuant to the call of the President, Secretary and all of the Board of Directors, due notice of which was given to each stockholder, a special meeting of the stockholders of The Doe Run Lead Company was held this day in the offices of the company at Bonne Terre, Missouri, at three o'clock in the afternoon.

The meeting was called to order by the President and Mr. F. H. Dearing, Secretary, kept the minutes.

There were present, in person and by proxy, the following stockholders, holding the number of shares set opposite their respective names:

	Shares
Charles H. Barker, in person	1
Daniel K. Catlin, in person	1
Clinton H. Crane, in person	1
F. H. Dearing, in person	1
Auguste B. Ewing, in person	1
Andrew Fletcher, by proxy	1
St. Joseph Lead Company, by proxy	6567.9
Parkhurst Sleeth, in person	1
Total issued and outstanding shares	6574.9

The President stated to the meeting the object of the call, being to consider a proposition to dissolve The Doe Run Lead Company. Thereupon the following resolution was offered:

> RESOLVED, by the shareholders of The Doe Run Lead Company, a corporation, that we favor, and so recommend, the dissolution of said corporation; and that when dissolved, the conduct and management of its business affairs be placed in the hands of the President and Board of Directors of said corporation, as trustees, in the manner provided by the laws of Missouri.

The President having appointed Mr. Parkhurst Sleeth and Mr. Charles H. Barker as inspectors, on motion duly seconded and adopted the appointment was ratified and confirmed.

The inspectors having qualified by taking the oath required by law, the polls were declared open for the deposit of ballots by the assembled stockholders. The report of the inspectors is as follows:

R10024

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"THE DOE RUN LEAD COMPANY

"Report of Inspectors on Vote on Dissolution.

"TO CLINTON H. CRANE, PRESIDENT OF THE DOE RUN LEAD COMPANY:

"As inspectors appointed by you to receive and canvass the votes cast by the stockholders of The Doe Run Lead Company, a corporation, at a special meeting of said stockholders held at the office of the corporation in the City of Bonne Terre, Missouri, on the third day of January, 1936, for the purpose of voting upon a resolution favoring the dissolution of said corporation, we hereby certify that we, and each of us, first made and subscribed to the oath required under the provisions of Section 4531, Revised Statutes, 1929, of the State of Missouri. We further certify that we received and counted the votes cast by the stockholders at said meeting on the resolution aforesaid, favoring a dissolution of said corporation; that the total number of shares voted by the stockholders was 6574.9, as follows:

For the resolution, 6574.9

Against the resolution, None.

"We further certify that the total number of shares of the corporation, issued and outstanding, is 6574.9.

"We further certify that we are shareholders, not directors, of said corporation.

"Witness our signatures at the City of Bonne Terre, County of St. Francois, State of Missouri, this 3rd day of January, 1936.

Parkhurst Sleeth.

Charles H. Barker."

There being no further business before the stockholders, on motion the meeting was adjourned.

President.

Attest: Secretary.

MINUTES OF A SPECIAL MEETING OF THE DIRECTORS OF THE DOE RUN LEAD COMPANY.

Bonne Terre, Missouri,
January 3, 1936.

The directors of The Doe Run Lead Company met in special session in the offices of the Company this 3rd day of January, 1936, immediately following the special stockholders' meeting held this day.

There were present: Messrs. Crane, Catlin, Ewing and

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Dearing; absent, Mr. Fletcher. Mr. Irwin H. Cornell was also present.

The President, Mr. Clinton H. Crane, presided over the meeting and Mr. F. H. Dearing kept the minutes.

The President read to the meeting the report of inspectors on votes on dissolution at the stockholders' meeting, showing that the vote on the resolution to dissolve the corporation had been unanimous.

Thereupon, on motion duly seconded, voted upon and carried by the unanimous vote of all members present and constituting a quorum of said Board, the President and Secretary of this corporation were authorized and directed to cause to be filed, pursuant to the statutes of Missouri in such cases made and provided, an application, by petition, for the dissolution of said The Doe Run Lead Company.

The reading of the minutes of December 17, 1935, was waived.

The resignation of Mr. A. B. Ewing was given verbally, and, on motion, was accepted.

On motion duly adopted by the votes of Mr. Crane, Mr. Dearing and Mr. Catlin, Mr. Irwin H. Cornell was elected to fill the vacancy caused by the resignation of Mr. Ewing.

Thereupon, Mr. Daniel K. Catlin verbally tendered his resignation as a member of the Board, which was accepted.

On motion duly seconded and adopted by the votes of Mr. Crane, Mr. Cornell and Mr. Dearing, Mr. C. Merrill Chapin, Jr., was elected to fill the vacancy caused by the resignation of Mr. Catlin.

No other business coming before the Board, on motion the meeting was adjourned.

Clinton H Crane
President.

Attest: F H Dearing
Secretary

R10034

New York City
December 21, 1936

A Special Meeting of the Board of Directors of The Doe Run Lead Company was duly called and held at its New York Office, 250 Park Avenue, New York City, on the 31st day of December, 1936, at 11:00 o'clock a.M. All of the directors were present, viz., Messrs. Clinton H. Crane, Irwin H. Cornell, Andrew Fletcher and C. Merrill Chapin, Jr.

The President, Mr. Clinton H. Crane, called the meeting to order

In view of the death of the Secretary, Mr. F. H. Dearing, Mr. H. B. McCorn was appointed Secretary pro tem.

The President made a report as to the dissolution and liquidation of this corporation. Upon motion duly made and seconded, the following preambles and resolution were unanimously adopted:

WHEREAS the President has reported that the following plan was agreed upon on November 21, 1935, between the officers of St. Joseph Lead Company and The Doe Run Lead Company, in behalf of their respective companies, for a complete liquidation of The Doe Run Lead Company;

1. That The Doe Run Lead Company should be dissolved under the provisions of the laws of Missouri.

2. That it's President and directors, acting under said laws as its trustees in dissolution, should thereupon immediately convey, assign and transfer to the owner of all of its outstanding capital stock, viz., St. Joseph Lead Company, all of the assets of The Doe Run Lead Company of every description and that St. Joseph Lead Company should assume all debts and liabilities of The Doe Run Lead Company.

3. That said transfer of The Doe Run Lead Company's assets to St. Joseph Lead Company with the attendant assumption by the latter of all the liabilities of The Doe Run Lead Company should be made by said trustees in dissolution of The Doe Run Lead Company and should be accepted by St. Joseph Lead Company as a distribution in complete liquidation of The Doe Run Lead Company and in complete cancellation of all of its capital stock; that upon such transfer St. Joseph Lead Company should surrender the certificates for such stock to said trustees in dissolution of The Doe Run Lead Company

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for cancellation accordingly and that said stock certificates should be physically cancelled.

4. That the said transfer of assets and complete liquidation of The Doe Run Lead Company should be completed as early in the year 1936 as practicable and in any case on or before December 31, 1936; and

WHEREAS the President has further reported that pursuant to said plan the following things have been done: A special meeting of the stockholders of The Doe Run Lead Company was duly called and held on January 3, 1936 for the purpose of considering the dissolution of the company. The Board of Trustees of St. Joseph Lead Company, by resolution passed November 21, 1935, directed that the shares of The Doe Run Lead Company stock owned by St. Joseph Lead Company be voted at said special meeting, and appointed Clinton H. Crane, Daniel K. Catlin and F. H. Deering or any one of them as its proxy to attend said meeting and vote said stock in favor of a dissolution of The Doe Run Lead Company. Said special meeting was duly held at Bonne Terre, Missouri, on January 3, 1936, and a resolution favoring dissolution of The Doe Run Lead Company was duly presented and duly adopted by vote of the holders of the entire number of issued and outstanding shares of the company's capital stock. A certified copy of said resolution was later on the same day presented to the Board of Directors of The Doe Run Lead Company at a meeting of the said Board duly held and called in said city of Bonne Terre, and said Board of Directors at said meeting, by resolution adopted by unanimous vote of the members present, being a quorum, ordered and directed that a suit be filed pursuant to the statutes of Missouri, for the dissolution of the company. A petition, duly verified by the President and Secretary of The Doe Run Lead Company, was accordingly duly filed in the Circuit Court of St. Francois County, Missouri, praying for a decree of dissolution, and such proceedings were duly had in said matter in accordance with the laws of the state of Missouri, that on February 8, 1936 the Court made and entered a decree of dissolution by which it was ordered, adjudged and decreed that the said The Doe Run Lead Company be and the same thereby was dissolved.

It was further ordered in and by said decree that the President and Directors of said corporation shall, as trustees of the corporation, take charge of its assets and administer the same in the manner and with all the rights and powers conferred upon them as such, under the provisions of the statutes of Missouri in such cases made and provided. Immediately following the entry of said decree of dissolution on February 8, 1936, The Doe Run Lead Company ceased to operate as a going concern, and by direction of its President and Directors acting as its trustees in dissolution, and by direction of the officers of St. Joseph Lead Company, respectively, all of the assets of The Doe Run Lead Company and all of its liabilities, as the same were on February 8, 1936, were transferred upon the books of The Doe Run Lead Company to St. Joseph Lead Company, and were taken up on the books of St. Joseph Lead Company, by appropriate entries on the respective books of the two companies, and on that day St. Joseph Lead Company took possession and has since then been in possession and operation of the property and assets so transferred to it.

Formal confirmation of said transfer, with respect to all of the real property included among said assets, was made by deed of conveyance of said real property, dated February 8, 1936, from The Doe Run Lead Company to St. Joseph Lead Company, duly executed, acknowledged and delivered by the President and Directors of The Doe Run Lead Company acting as its trustees in dissolution, on June 17, 1936, and recorded in the office of the Recorder of Deeds of the County of St. Francois, Missouri, on June 19, 1936; and by instrument dated June 17, 1936, duly acknowledged and delivered, St. Joseph Lead Company assumed all of the liabilities of The Doe Run Lead Company as the same were on February 8, 1936. The stock certificates for the 6574.9 shares of capital stock of The Doe Run Lead Company owned by St. Joseph Lead Company, comprising all of the shares except 3.4 shares held in the treasury of The Doe Run Lead Company itself, were duly surrendered by St. Joseph Lead Company to said trustees in dissolution for complete cancellation, and said certificates, together with the certificates for said 3.4 shares held in the treasury of The Doe Run Lead Company, making 6578.3 shares and comprising all the issued and outstanding shares, have

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been cancelled physically and upon the books of the Doe Run Lead Company; and the liquidation of The Doe Run Lead Company and the distribution of all its property, in such liquidation, to St. Joseph Lead Company in complete cancellation of all the stock of The Doe Run Lead Company has been completed.

RESOLVED that the plan of dissolution and complete liquidation of The Doe Run Lead Company, as reported by the President at this meeting and set forth in the foregoing preambles, be and the same is hereby approved, ratified, adopted and confirmed; and that all the things done in pursuance and consummation of said plan as reported by the President and set forth in said preambles be and the same hereby are ratified, confirmed and approved.

There being no further business to come before the meeting, on motion duly made and seconded, it was adjourned.

President

Attest:

Secretary pro tem.

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New York City
March 12, 1936

Immediately following the Annual Meeting of the Stockholders, a meeting of the newly elected Board of Trustees was held at the office of the Company, 250 Park Avenue, New York City.

Present: Messrs. Clinton H. Crane, Irwin H. Cornell, C. Merrill Chapin, Jr., Hendon Chubb, Andrew Fletcher and Edward V. Peters.

The meeting was called to order by Mr. Clinton H. Crane.

On motion duly made and seconded, Mr. Chubb was elected Temporary Chairman and Mr. H. B. McGown, Secretary of the Meeting.

Copies of the minutes of the meeting of the Board held February 20, 1936, having been sent to and approved by all members of the Board, it was on motion duly made and seconded: RESOLVED, that the reading of said minutes be dispensed with.

The minutes of the meeting of the Executive Committee held March 5, 1936, were read by the Secretary, and on motion of Mr. Cornell, seconded by Mr. Peters, the following resolution was unanimously adopted:

> RESOLVED, that the proceedings and acts of the Executive Committee as recorded in the minutes of its meeting held March 5, 1936, as read, be and the same are hereby approved, ratified and confirmed as the acts of the Board of Trustees.

On motion of Mr. Cornell seconded by Mr. Chapin, Mr. Clinton H. Crane was elected President of the Company for the ensuing year, at a salary of $54,000. per annum, all those present voting in the affirmative, except Mr. Crane, who did not vote.

Mr. Crane thereupon took the chair.

On motion of Mr. Chubb seconded by Mr. Peters, Mr. Irwin H. Cornell was elected Vice President and Sales Manager of the Company for the ensuing year, at a salary of $25,000. per annum, all those present voting in the affirmative, except Mr. Cornell, who did not vote.

On motion of Mr. Chubb seconded by Mr. Cornell, Mr. Andrew Fletcher was

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elected Vice President and Treasurer of the Company for the ensuing year, at a salary of $24,000. per annum, all those present voting in the affirmative, except Mr. Fletcher, who did not vote.

On motion of Mr. Peters seconded by Mr. Cornell, Mr. C. Merrill Chapin, Jr. was elected a Vice President and Assistant Secretary of the Company for the ensuing year, at a salary of $16,000. per annum, all those present voting in the affirmative except Mr. Chapin, who did not vote.

On motion of Mr. Chapin seconded by Mr. Cornell, Mr. Edward V. Peters was elected a Vice President of the Company for the ensuing year, at a salary of $19,000. per annum, all those present voting in the affirmative, except Mr. Peters, who did not vote.

On motion of Mr. Chubb seconded by Mr. Peters, Mr. H. B. McGown was elected Secretary and Assistant Treasurer of the Company for the ensuing year, at a salary of $13,500. per annum, all those present voting in the affirmative.

On motion of Mr. Fletcher seconded by Mr. Cornell, Mr. F. H. Dearing was elected an Assistant Treasurer of the Company for the ensuing year, at a salary of $5,400. per annum, all those present voting in the affirmative.

On motion of Mr. Peters seconded by Mr. Cornell, Mr. Robert Bennett was elected an Assistant Secretary of the Company for the ensuing year at a salary of $9,000. per annum, to perform such duties as may from time to time be designated by the Board of Trustees or by the President.

On motion of Mr. Fletcher seconded by Mr. Chapin, Mr. George I. Brigden was elected an Assistant Secretary of the Company for the ensuing year, at a salary of $10,000. per annum, to perform such duties as may from time to time be designated by the Board of Trustees or by the President.

On motion of Mr. Peters seconded by Mr. Chapin, Messrs. Clinton H. Crane, Irwin H. Cornell, Hendon Chubb, Fred W. Shibley and Andrew Fletcher were elected members of the Executive Committee for the ensuing year, Mr. Crane being elected Chairman; members of the Committee who are salaried officials of the Company to serve as members of the Executive Committee without salary, and the others each to

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receive a fee of $40.00 for each meeting of the Committee they attend.

On motion of Mr. Cornell seconded by Mr. Fletcher, the following resolution was unanimously adopted:

> RESOLVED, that the shares of the capital stock of the Lead Belt Water Company, which are owned by the St. Joseph Lead Company, be voted at the annual meeting of the stockholders of the Lead Belt Water Company to be held at Bonne Terre, Missouri, on May 5, 1936, for the election of Directors to serve for the ensuing year and the transaction of such other business as may come before such meeting, and that Clinton H. Crane, L. T. Sicks, F. H. Dearing and C. H. Barker, or either of them, or any substitutes appointed by them, be authorized as proxies and attorneys of the St. Joseph Lead Company to attend said meeting or any adjournment thereof, and to vote said stock for the election of Clinton H. Crane, L. T. Sicks, F. H. Dearing, C. H. Barker and Parkhurst Sleeth as Directors to serve for the ensuing year, and to exercise any and all the rights and powers incident to the ownership of such stock.

On motion of Mr. Chubb seconded by Mr. Peters, the following resolution was unanimously adopted:

> RESOLVED, that the shares of the capital stock of the Bonne Terre Farming and Cattle Company, which are owned by the St. Joseph Lead Company, be voted at the annual meeting of the stockholders of the Bonne Terre Farming and Cattle Company, to be held at Bonne Terre, Missouri, on May 5, 1936, for the election of Directors to serve for the ensuing year and the transaction of such other business as may come before such meeting, and that Clinton H. Crane, L. T. Sicks, F. H. Dearing and C. H. Barker, or either of them or any substitutes appointed by them be authorized as the proxies and attorneys of the St. Joseph Lead Company to attend said meeting or any adjournment thereof, and to vote said stock for the election of Clinton H. Crane, L. T. Sicks, F. H. Dearing, C. H. Barker and W. J. Conway as Directors to serve for the ensuing year, and to exercise any and all the rights and powers incident to the ownership of such stock.

The President presented to the Board, the annual audits made by Haskins & Sells of the St. Joseph Lead Company, The Doe Run Lead Company, the Bonne Terre Farming and Cattle Company, Kansas Explorations, Inc., Linares Corporation, Companhia Exploradora De Minas, Inc., and Compania Minera Toba, Inc.

On motion of Mr. Cornell seconded by Mr. Fletcher, these audits were accepted and ordered on file.

On motion of Mr. Chubb seconded by Mr. Chapin, the following preamble and resolution was unanimously adopted:

> WHEREAS the President has reported to the Board of Trustees of St. Joseph Lead Company at this meeting that the following plan

had been agreed upon between the respective officers of St. Joseph Lead Company and The Doe Run Lead Company, in behalf of their respective companies, for a complete liquidation of The Doe Run Lead Company:

1. That The Doe Run Lead Company should be dissolved under the provisions of the laws of Missouri.

2. That its President and directors, acting under said laws as its trustees in dissolution, should thereupon immediately convey, assign and transfer to the owner of all of its outstanding capital stock, viz., St. Joseph Lead Company, all of the assets of The Doe Run Lead Company of every description and that St. Joseph Lead Company should assume all debts and liabilities of The Doe Run Lead Company.

3. That said transfer of The Doe Run Lead Company's assets to St. Joseph Lead Company with the attendant assumption by the latter of all the liabilities of The Doe Run Lead Company should be made by said trustees in dissolution of The Doe Run Lead Company and should be accepted by St. Joseph Lead Company as a distribution in complete liquidation of The Doe Run Lead Company and in complete cancellation of all of its capital stock; that upon such transfer St. Joseph Lead Company should surrender the certificates for such stock to said trustees in dissolution of The Doe Run Lead Company for cancellation accordingly and that said stock certificates should be physically cancelled.

4. That the said transfer of assets and complete liquidation of The Doe Run Lead Company should be completed as early in the year 1936 as practicable and in any case on or before December 31, 1936; and

WHEREAS the President has further reported that pursuant to said plan the following things have already been done: A special meeting of the stockholders of The Doe Run Lead Company was duly called and held on January 3, 1936 for the purpose of considering the dissolution of the company. The Board of Trustees of St. Joseph Lead Company, by resolution passed November 21, 1935, directed that the shares of The Doe Run Lead Company stock owned by St. Joseph Lead Company be voted at said special meeting, and appointed Clinton H. Crane, Daniel K. Catlin and F. H. Dearing or any one of them as its proxy to attend said meeting and vote said stock in favor of a dissolution of The Doe Run Lead Company. Said special meeting was duly held at Bonne Terre, Missouri, on January 3, 1936, and a resolution favoring dissolution of The Doe Run Lead Company was duly presented and duly adopted by vote of the holders of the entire number of issued and outstanding shares of the company's capital stock. A certified copy of said resolution was later on the same day presented to the Board of Directors of The Doe Run Lead Company at a meeting of the said board duly held and called in said city of Bonne Terre, and said Board of Directors at said meeting, by resolution adopted by unanimous vote of the members present, being a quorum, ordered and directed that a suit be filed pursuant to the statutes of Missouri, for the dissolution of the company. A petition, duly verified by the president and secretary of The Doe Run Lead Company, was accordingly duly filed in the Circuit Court of St. Francois County, Missouri, praying for a decree of dissolution, and such proceedings

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were duly had in said matter in accordance with the laws of the State of Missouri, that on February 8, 1936 the Court made and entered a decree of dissolution by which it was ordered, adjudged and decreed that the said Doe Run Lead Company be and the same thereby was dissolved. It was further ordered in and by said decree that the President and Directors of said corporation shall, as trustees of the corporation, take charge of its assets and administer the same in the manner and with all the rights and powers conferred upon them as such, under the provisions of the statutes of Missouri in such cases made and provided. Immediately following the entry of said decree of dissolution on February 8, 1936, The Doe Run Lead Company ceased to operate as a going concern, and by direction of its President and Directors acting as its trustees in dissolution, and by direction of the officers of St. Joseph Lead Company, respectively, all of the assets of The Doe Run Lead Company and all of its liabilities, as the same were on February 8, 1936, were transferred upon the books of The Doe Run Lead Company to St. Joseph Lead Company, and were taken up on the books of St. Joseph Lead Company, by appropriate entries on the respective books of the two companies, and since that day St. Joseph Lead Company has been in possession and operation of the property and assets so transferred to it. Formal confirmation of said transfer with respect to real property and certain other items, for which deeds or bills of sale may be necessary to evidence title in St. Joseph Lead Company, are in course of preparation and will shortly be executed and delivered by the trustees in dissolution of The Doe Run Lead Company, and upon such delivery the stock certificates for the capital stock of The Doe Run Lead Company will be surrendered by St. Joseph Lead Company to the trustees in dissolution for cancellation.

RESOLVED, that the plan of dissolution and complete liquidation of The Doe Run Lead Company reported by the President at this meeting and set forth in the foregoing preamble, be and the same is hereby approved, ratified, confirmed and adopted by St. Joseph Lead Company; that all the things done in pursuance of said plan as reported by the President as set forth in said preamble be and the same hereby are ratified, confirmed and approved; that St. Joseph Lead Company hereby accepts the transfer to it of all of the assets of The Doe Run Lead Company and assumes all of the liabilities of The Doe Run Lead Company, as such assets and liabilities were immediately after the entry of the decree of dissolution by The Doe Run Lead Company on February 8, 1936, and accepts the said assets with such attendant assumption of liabilities, as a distribution in complete liquidation of The Doe Run Lead Company and in complete cancellation of the capital stock of The Doe Run Lead Company; that all of the things done by the President and other officers of St. Joseph Lead Company in connection with the foregoing matters be and they are hereby ratified and approved, and they are hereby authorized and directed, upon receiving from the trustees in dissolution of The Doe Run Lead Company such deed or deeds, bill of sale and other instruments duly executed by such trustees, as may be necessary or proper in order to effectually transfer to or confirm in St. Joseph Lead Company the title and ownership of the said assets or any of them, of The Doe Run Lead Company, to execute and deliver in the name and behalf of St. Joseph Lead Company to The Doe Run Lead Company or its said trustees in dissolution, such instrument as may in the opinion of

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counsel be necessary or proper, evidencing the assumption by St. Joseph Lead Lead Company of all of the liabilities of The Doe Run Lead Company as the same were on February 8, 1936, and also to surrender to said trustees in dissolution for cancellation the stock certificates for all of the shares of capital stock of The Doe Run Lead Company owned by St. Joseph Lead Company; and the President and other officers of St. Joseph Lead Company are hereby further authorized in the name and behalf of St. Joseph Lead Company to execute and deliver any instrument and to do any and all other things that they may deem necessary or appropriate, in order that a distribution to St. Joseph Lead Company in complete liquidation of The Doe Run Lead Company, in complete cancellation of all of its stock, shall be effectually accomplished.

There being no further business to come before the meeting, on motion duly made and seconded, it was adjourned.

Secretary

1898

State of New York } ss.:
DEPARTMENT OF STATE

It is Hereby Certified, *That* a Certificate of Merger of

ST. JOE MINERALS CORPORATION

with

FLUOR ACQUISITION CORPORATION

and adoption of the name of

ST. JOE MINERALS CORPORATION

FILED
NOV 17 1981
SECRETARY OF STATE

was filed in this Department on the third day of August, 1981.

Witness *my hand and the official seal of the Department of State at the City of Albany, this* eleventh *day of* August *one thousand nine hundred and* eighty-one

Basil A. Paterson
Secretary of State

G020-522

NOVEMBER 30, 1981

NEED MERGER CLEARANCE

#00188934	AQUARIUS SHOE CORP. Yes	
#00187541	WESTBORO SHOE MANUFACTURING COMPANY, INC. Yes	
#00182856	GATEWAY SHOE MANUFACTURING COMPANY, INC. Yes	
#00228316	W.E. & W.S., INC. No	
#00087875	MID-AMERICA PUBLISHING CORPORATION No	
F00234491	HAIR CARE HARMONY OF ANTIOCH, INC. No	9/25/81
F00234493	HAIR CARE HARMONY OF BLUE RIDGE, INC. No	
F00234492	HAIR CARE HARMONY OF CITY CENTER SQUARE, INC. No	
F00234495	HAIR CARE HARMONY OF TRUMAN CORNERS, INC. No	
F00234494	HAIR CAREHARMONY OF WARD PARKWAY, INCORPORATED No	
F0014232	GARRISON MOTOR FREIGHT Yes (1980 and prior)	
#00100890	WONDER VENDING CORP. Yes	
#00098654	BLACK INVESTMENT COMPANY Yes	
#00161860	FASHION TEMPO, INC. No	
#00178560	TULSA APPAREL, INC. No	
F00215113	MELLON ENERGY PRODUCTS COMPANY No	(April 29, 1981)
F00167001	AMERICAN IMPACTS CORPORATION No	(January 2, 1981)
F00178254	CHILDERS PRODUCTS COMPANY, INC. No	(August 31, 1981)
F00128409	ASPLUNDH SERVICE COMPANY No	(September 21, 1981)
#00103802	SPRINGFIELD CLINIC CORPORATION No	
F00002523	ST. JOE MINERALS CORPORATION Yes	(August 3, 1981)
#00071930	SOUTHERN REALTY COMPANY Yes	

Received from
Dept of Revenue
December 8, 1981

per'd my desk
12-7-81

STATE OF MISSOURI
OFFICE OF SECRETARY OF STATE
JEFFERSON CITY 65101

JAMES C. KIRKPATRICK
SECRETARY OF STATE

314 / 751-3230

NOVEMBER 17, 1981

Hearne & Hearne
304 E. High
Jefferson City, Mo. 65101

RE: FLUOR ACQUISITION CORPORATION (F00232995)

Dear Sir or Madam:

This is to advise you that on the date shown below we have filed for record in this office a merger between:

ST. JOE MINERALS CORPORATION (F00002523)

INTO

FLUOR ACQUISITION CORPORATION (F00232995)

The merger was filed in this office on NOVEMBER 17, 1881.

The merger was filed in the home state of survivor on AUGUST 3, 1981.

The Survivor is qualified to transact business in Missouri.

The fee for filing a merger is $10.00, plus $1.00 for each additional foreign corporation qualified in Missouri over two in number. If you did not send us a check for that amount, a bill for the correct amount is being sent to you.

Very truly yours,

JAMES C. KIRKPATRICK
Secretary of State

Corporation Division
Merger Desk
314/751-3230

FILED
NOV 17 1981

SECRETARY OF STATE

Ltr. #25 (SEF 2-80)

State of Missouri · · · Office of Secretary of State

APPLICATION FOR AN AMENDED CERTIFICATE OF AUTHORITY FOR A FOREIGN CORPORATION

(To be submitted in duplicate by an attorney)

HONORABLE JAMES C. KIRKPATRICK
SECRETARY OF STATE
STATE OF MISSOURI
JEFFERSON CITY, MO. 65102

St. Joe Minerals Corporation, a corporation, pursuant to the provisions of "The General and Business Corporation Law of Missouri" relating to amended certificate of authority of Foreign Corporation, does hereby state,

(1) Its name is St. Joe Minerals Corporation (formerly St. Joseph Lead Company); it was incorporated in the State of New York; and it was qualified in the State of Missouri on March 24, 1914.

(2) The name it will use in Missouri is St. Joe Minerals Corporation

(3) The address of its principal office in the state or country of organization is 250 Park Avenue, New York, N. Y. 10017
(Include street and number, if any.)

(4) The address of its registered agent in Missouri is Bonne Terre, Missouri, 63628
(Include street and number, if any.)

and the name of registered agent in Missouri at such address is L. W. Casteel

(5) The corporation is qualified under the following states and countries other than Missouri:

Arkansas
Kentucky
New York
Oklahoma
Pennsylvania
Tennessee
Texas

(6) By appropriate corporate action on May 11, 19 70, the corporation:

1. Changed its corporate name to St. Joe Minerals Corporation from St. Joseph Lead Company

2. Changed its period of duration to N.A.

(MO. - 276 - 11/20/68)

(7) The specific purpose or purposes which the corporation intends to pursue in the transaction of business in Missouri are changed to read as follows: (restate purposes if changed)

See Exhibit A attached.

(8) There is attached hereto a Certificate of the Secretary of State of the State of New York relating to the amendment(s), set forth in item 6 above and showing that the Corporation is in existence and in good standing in said State.

IN WITNESS WHEREOF, the undersigned corporation has caused this application to be executed in its name by its ~~President or~~ Vice-President attested by its Secretary or Assistant Secretary, this 25th day of May, 19 70.

St. Joe Minerals Corporation
(Exact Corporate Name)

(CORPORATE SEAL)

By D. Broward Craig
~~President~~ Vice-President

ATTEST:

James Bradhead
Secretary ~~Assistant Secretary~~

STATE OF New York
COUNTY OF New York } ss

I, Dorothy S. Fund, a notary public, do hereby certify that on this 25th day of May, 19 70, personally appeared before me D. Broward Craig, who, being by me first duly sworn, declared that he is the Vice President of St. Joe Minerals Corporation, that he signed the foregoing document as Vice President of the corporation, and that the statements therein contained are true.

PLACE NOTARY SEAL HERE

Dorothy S. Fund
Notary Public

DOROTHY S. FUND
NOTARY PUBLIC, State of New York
No. 60-1348350
Qualified in Westchester County
Certificate filed with N. Y. Co. Clerk
Commission Expires March 30, 1974

My Commission expires:

Amended

FILED
AND CERTIFICATE OF AUTHORITY ISSUED
JUL 6 1970

Corporation Dept. SECRETARY OF STATE

2982

State of New York
Department of State } ss:

I Hereby Certify, *That I have made diligent examination of the index of corporation papers filed in this Department for a certificate, order or record of a dissolution of*

ST. JOE MINERALS CORPORATION

the certificate of incorporation of which corporation was filed March 25, 1864, under the name of THE ST. JOSEPH LEAD COMPANY, fixing the duration as fifty years, and which was amended by a certificate filed June 25, 1909, extending the duration to perpetual, and which subsequently filed a Restated Certificate of Incorporation, changing name, on May 12, 1970,

and that upon such examination, I find no such certificate, order or record, and that so far as indicated by the records of this department, such corporation is a subsisting corporation.

I further certify that no other certificates have been filed by such corporation, since the filing of the Restated Certificate of Incorporation.

Witness *my hand and the official seal of the Department of State at the City of Albany, this* eighteenth *day of* May *one thousand nine hundred and* seventy.

John P. Lomenzo
Secretary of State

CO - 509 (8/67)

EXHIBIT A

RESTATED CERTIFICATE OF INCORPORATION

FIRST: The name of the Corporation is St. Joe Minerals Corporation.

SECOND: The purposes for which the Corporation is formed are to do any of the things herein set forth to the same extent as natural persons might, and in any part of the world, and as principal or agent, to wit:

To conduct mining operations of all kinds; to explore for, develop and deal in, any natural resources of any kind; to purchase, take, hold, sell, convey, lease, explore, develop, improve or otherwise deal in mining, natural resources, land, town site, building, power, water and other properties of all forms; to mine, extract or otherwise develop, minerals, ores, metals, oil, natural gas and other substances of all kinds; to smelt, reduce, refine and otherwise treat minerals, ores, metals, oil, natural gas and other substances of all kinds; to sell the product of all the foregoing operations; to deal in oil, natural gas or other royalties; to undertake and carry on any business and operations incidental to such dealings, exploration, development, mining and treatment.

To manufacture, produce, purchase, lease or otherwise acquire, to hold, own, manage, operate, mortgage, pledge, sell, assign, transfer or otherwise dispose of, to invest, trade and deal in and with goods, wares, equipment, merchandise and property of all classes and descriptions; to engage and participate in any mercantile, manufacturing or trading business of any kind or character.

To construct, purchase, lease or otherwise acquire, to hold, own, manage, operate, mortgage, pledge, sell, assign, transfer or otherwise dispose of, to invest, trade and deal in and with lands, buildings and real property of every kind, or any interest therein.

To apply for, purchase, or otherwise acquire, and to hold, own, use, operate and to sell, assign or otherwise dispose of, to grant licenses in respect to or otherwise turn to account or in any manner deal in and with any trademarks, trade names, patents, patent rights, concessions, franchises, designs, copyrights and rights analogous thereto and any and all inventions, improvements and processes and the like, including, but without limitation, such thereof as may be used in connection with or secured under letters patent or otherwise of the United States or elsewhere, and any or all rights connected therewith.

To acquire, by purchase or otherwise, all or any part of or interest in the properties, assets, business, good will or rights of any corporation, partnership, firm, individual or association, and to pay for the same in cash, property or the shares, bonds, notes or other securities or obligations of any kind of the Corporation or any other person; to hold, conduct, operate, reorganize, liquidate, dissolve, mortgage, pledge, sell, exchange or otherwise dispose of the whole or any part of the properties, assets, business, good will or rights so acquired.

To purchase, acquire, hold and dispose of the stocks, bonds, notes and other securities and evidences of indebtedness of any corporation or other issuer, domestic or foreign, and issue in exchange therefor its stock, bonds, notes or other securities or obligations.

For the accomplishment of the aforesaid purposes, and in furtherance thereof, the Corporation shall have and may exercise, as principal, factor, agent, broker or otherwise, and either alone or in association with other corporations, firms or individuals, each and every power conferred by the Business Corporation Law of the State of New York, as now in force or thereafter amended, upon corporations formed thereunder, subject to any limitations contained in the said law or in any other statute of the State of New York.

No. F-2523

STATE of MISSOURI

JAMES C. KIRKPATRICK, Secretary of State

Corporation Department

Amended Certificate of Authority of a Foreign Corporation

WHEREAS, ST. JOE MINERALS CORPORATION (FORMERLY: ST. JOSEPH LEAD COMPANY) incorporated under the Laws of the State of NEW YORK and now in existence and in good standing in said State, and qualified to transact business in Missouri has delivered to me, duly authenticated evidence of an amendment to its Articles of Incorporation as provided by law, and has, in all respects, complied with the requirements of The General and Business Corporation Law of Missouri, governing Amendments to the Articles of Incorporation of Foreign Corporations:

NOW, THEREFORE, I, JAMES C. KIRKPATRICK, Secretary of State of the State of Missouri, by virtue of the authority vested in me, do hereby certify that I have filed said Articles of Amendment as provided by law and in accordance therewith issue this Certificate of Amendment.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the GREAT SEAL of the State of Missouri, at the City of Jefferson, this 6th day of July, 19 70.

James C. Kirkpatrick
Secretary of State

Deputy Secretary of State

RECEIVED OF: ST. JOE MINERALS CORPORATION

Thirteen and no/100 Dollars, $ 13.00

For Credit of General Revenue Fund, on Account of Incorporation Tax and Fee.

No. F-2523

Dorothy Mae Miller
[redacted]
Deputy Collector of Revenue

CERTIFICATE OF INCREASE OF CAPITAL STOCK AND INCREASE OF NUMBER OF SHARES OF CAPITAL STOCK OF ST. JOSEPH LEAD COMPANY, PURSUANT TO SECTION THIRTY-SIX OF THE STOCK CORPORATION LAW

We, the undersigned, being the President and the Secretary, respectively, of the St. Joseph Lead Company, do hereby certify as follows:

1. The name of the corporation is the St. Joseph Lead Company.

2. The certificate of incorporation of said corporation was filed in the office of the Secretary of State on the 25th day of March, 1864.

3. The total amount of the previously authorized capital stock is $20,000,000.

4. The total number of shares which the corporation is already authorized to issue is 2,000,000, all being of the same class and all of the par value of $10. each.

5. The number of shares issued and outstanding is 1,996,794.

6. The amount to which the capital stock is hereby increased is $25,000,000.

7. The number of shares is also hereby increased from 2,000,000 to 2,500,000.

8. The total number of shares, including those previously authorized, which the corporation may henceforth have, is 2,500,000, all of which are to be, as heretofore, of the same class and of the par value of $10. each.

IN WITNESS WHEREOF, we have made, subscribed and acknowledged this certificate in duplicate this 10 day of April, 1930.

CLINTON H. CRANE
President

LEONIDAS H. BESSON
Secretary

STATE OF NEW YORK }
COUNTY OF NEW YORK } SS.

On this 10 day of April, 1930, before me personally came CLINTON H. CRANE and LEONIDAS H. BESSON, to me known and known to me to be the persons described in and who executed the foregoing certificate and severally duly acknowledged to me that they executed the same.

ROBERT BENNETT
Notary Public, Kings Co. No.847
Certificate Filed in New York Co. No.751
Register's No. Kings Co.No.1340,New York Co.No.185
My Commission Expires March 30, 1931.

(SEAL)

STATE OF NEW YORK)
) SS -
COUNTY OF NEW YORK)

CLINTON H. CRANE and LEONIDAS H. BESSON, being severally duly sworn, do depose and say, and each for himself deposes and says, that he, the said Clinton H. Crane, is the President of ST. JOSEPH LEAD COMPANY, and he, the said Leonidas H. Besson, is the Secretary thereof, and that they have been duly authorized to execute and file the foregoing certificate of increase of capital stock and number of shares by the votes, cast in person or by proxy, of the holders of record of a majority of the outstanding shares of the corporation entitled to vote thereon, and that such votes were cast at a stockholders' meeting duly held at No. 250 Park Avenue, Borough of Manhattan, City of New York, State of New York, on the 10th day of April, 1930, at eleven o'clock in the forenoon upon notice pursuant to Section Forty-five of the Stock Corporation Law.

CLINTON H. CRANE

LEONIDAS H. BESSON

Sworn to before me this
10 day of April, 1930.

ROBERT BENNETT
Notary Public, Kings Co. No.847
Certificate Filed in New York Co. No.751
Register's No.Kings Co.No.1340, New York Co.No.18554
My Commission Expires March 30, 1931.

(SEAL)

2262

State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY That I have compared the preceding copy with the original Certificate of Increase of Capital Stock and Number of Shares of

St. Joseph Lead Company,

filed in this department on the 15th day of April, 1930, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State.

Form 83. 1-14-31-5000 (2-4695)

Ctl Cfg

ST. JOSEPH LEAD COMPANY

CERTIFICATE OF INCORPORATION AND AMENDMENTS

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WITH DATES OF FILING IN THE OFFICE OF

THE SECRETARY OF STATE

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U. S. Inter.
Rev. Stamp
10 cents.

State of New York,
City and County of New York, } ss.

BE IT KNOWN that we, John E. Wylie, Edmund I. Wade, James L. Dunham, James L. Hathaway, Lyman W. Gilbert and Wilmot Williams,

DO HEREBY CERTIFY AND DECLARE that we desire to form a company and Do by these presents in pursuance of and conformity with the act of the Legislature of the State of New York, passed on the seventeenth day of February in the year one thousand eight hundred and forty-eight entitled "An Act to authorize the formation of Corporations for manufacturing, mining, mechanical or chemical purposes," and the several acts of the said Legislature amendatory thereof, associate ourselves together and form a body politic and corporate under the name and style of "THE ST. JOSEPH LEAD COMPANY."

FIRST: The corporate name of ~~the~~ said Company shall be THE ST. JOSEPH LEAD COMPANY.

SECOND: The objects for which said Company is formed are to mine, smelt, refine, manufacture and prepare for sale LEAD AND OTHER ORES AND MINERALS.

THIRD: The amount of the Capital Stock of said Company shall be ONE MILLION of Dollars.

FOURTH: The Capital Stock of said Company shall be divided into One Hundred Thousand Shares of Ten Dollars each.

FIFTH: The term of existence of said Company shall be FIFTY YEARS from the date of its incorporation.

SIXTH: The number of Trustees who shall manage the concerns of the said Company shall be SEVEN and the names of those who shall manage said concerns for the first year are JOHN E. WYLIE, EDMUND I. WADE, JAMES L. DUNHAM, JAMES L. HATHAWAY, LYMAN W. GILBERT, WILMOT WILLIAMS and JOSEPH C. BARLOW.

[1]

2

SEVENTH: The names of the Town and County in this State in which the principal part of the business of this Company is to be transacted are the City of New York and County of New York, and some part of the business of the Company is to be carried on in Township 37, Range 4, East in the County of St. Francois in the State of Missouri.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this twenty-fourth day of March in the year one thousand eight hundred and sixty-four.

In the presence of
D. McLEAN SHAW.

JOHN E. WYLIE,	(L. S.)
EDMUND I. WADE,	(L. S.)
JAS. L. DUNHAM,	(L. S.)
JAMES L. HATHAWAY,	(L. S.)
LYMAN W. GILBERT,	(L. S.)
WILMOT WILLIAMS.	(L. S.)

State of New York,
City & County of New York, } ss.:

On the twenty-fourth day of March in the year one thousand eight hundred and sixty-four before me personally came John E. Wylie, Edmund I. Wade, James L. Dunham, James L. Hathaway, Lyman W. Gilbert and Wilmot Williams, to me known to be the individuals described in and who executed the above certificate of incorporation and they severally each for himself acknowledged that they executed the same for the purposes therein mentioned.

D. McLEAN SHAW,
Comm'r of Deeds,
66 Wall Street.

(Endorsed) Filed March 24, 1864.

State of New York,
City and County of New York, } ss.:

I, Henry W. Genet, Clerk of the said City and County, do certify that I have compared the preceding with the original Cert. of Inc. of "The St. Joseph Lead Company" remaining in my office and that the same is a correct transcript therefrom and of the whole of such original.

In Witness Whereof, I have hereunto subscribed my name and affixed my official seal this 24th day of March, 1864.

H. W. Genet,
(Seal) Clerk.

(Cancelled Revenue Stamp 5c.)

~~June 5, 1909, Existence Extended to Perpetual~~.

(Endorsed)

Certificate of Organization of The St. Joseph Lead Company.
Filed March 25th, 1864.

Erastus Clark,
Deputy Secretary of State.

Certificate to Increase the Capital Stock of the St. Joseph Lead Company to $1,100,000. Executed in Duplicate.

State of New York,
City & County of New York, } ss.:

I, Jonathan H. Crane, do hereby certify:

That I am one of the Trustees of the St. Joseph Lead Company, a corporation duly organized under the "Act authorizing the formation of corporations for manufacturing, mining, mechanical, chemical, agricultural, horticultural, medical or curative, mercantile or commercial purposes," passed Feb. 17, 1848, by the New York Legislature.

That the Trustees of the said company desiring to increase the capital stock thereof called a meeting of the stockholders of the said company in the manner prescribed by the said Act for the 18th day of December, 1883.

2263

State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY That I have compared the preceding copy with the certified copy of Certificate of Incorporation of

THE ST. JOSEPH LEAD COMPANY,

filed in this department on the 25th day of March, 1864, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State.

Form 83. 1-14-31-5000 (2-4695)

That the said Trustees did publish for three successive weeks prior to the time set for said meeting a notice of the proposed meeting signed by more than a majority of the Trustees of said company showing the time and place thereof and specifying the object of the meeting and the amount to which it was proposed to increase the capital stock of said company in a newspaper published in the City and County of New York, the principal place of business of the said company; and that the said Trustees did also cause to be mailed to each stockholder of the said company to his usual place of residence a printed copy of the said notice so published at least three weeks before the date named therein for the holding of said meeting.

I do further certify:

That at the time and place specified in the notice published and mailed as aforesaid, that is to say, on the 18th day of December, 1883, at the office of the St. Joseph Lead Company, 152 Broadway, in the City of New York, at one o'clock P. M., there appeared in person and by proxy stockholders representing more than two/thirds of all the shares of stock of the said company and that the said meeting organized by choosing myself, the said Jonathan H. Crane, as chairman, and Edward P. Williams as secretary thereof without opposition.

That proof of the proper publishing and mailing of the call for the meeting having been presented the following resolution was offered:

> Resolved: That the St. Joseph Lead Company ~~has~~ does increase its capital stock from the present amount thereof viz: the sum of $1,000,000 consisting of 100,000 shares of the par value of $10 per share; to the amount of $1,100,000 to consist of 110,000 shares of the par value of $10 per share; and that the officers of this meeting are hereby instructed to take the necessary legal steps to perfect such increase of capital.

That a vote of those present in person or by proxy being had upon the said resolutions and the vote having been duly canvassed it appeared that 82,948 shares of the capital stock of said company, being more than two thirds of all the stock thereof voted in favor of the said resolutions and in favor of increasing the capital stock of said company as is set forth therein.

And I do further certify:

That all of the capital stock of the St. Joseph Lead Company has been issued in payment for mining lands and properties required by it in the course of its business, and that all of its capital has thus been paid in in property; and that the amount of the existing debts and liabilities of the Company is as nearly as can be stated the sum of $210,000; and that the amount to which the capital stock of said company was increased is one million one hundred thousand dollars.

JONATHAN H. CRANE,
Chairman.

Countersigned by:
EDWARD P. WILLIAMS,
Secretary.

City and County of New York, ss.:

JONATHAN H. CRANE, being duly sworn, deposes & says that he has read the foregoing certificate subscribed by him and that the same is in all respects true.

JONATHAN H. CRANE.

Sworn before me this 18th day of December, 1883.

LEOPOLD WALLACH,
Notary Public, N. Y. Co.

City and County of New York, ss.:

I, LEOPOLD WALLACH, a Notary Public dwelling in New York City and County, do hereby certify that on this 18th day of December, 1883, personally appeared before me Jonathan H. Crane, to me known to be the individual described in and who executed the foregoing certificate and he acknowledged to me that he executed the same.

LEOPOLD WALLACH,
Notary Public, N. Y. Co.

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State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY That I have compared the preceding copy with the original Certificate to Increase the Capital Stock of

St. Joseph Lead Company,

filed in this department on the 20th day of December, 1883, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State, at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State

Form 76. 5-26-30-8000 (2-7150)

6

State of New York,
City and County of New York, } ss.:

I, PATRICK KEENAN, Clerk of the City and County of New York, and also Clerk of the Supreme Court for the said City and County, the same being a Court of Record, Do HEREBY CERTIFY, That Leopold Wallach whose name is subscribed to the Certificate of the proof or acknowledgment of the annexed Instrument, and thereon written, was, at the time of taking such proof and acknowledgment, a Notary Public in and for the City and County of New York, dwelling in the said City, commissioned and sworn, and duly authorized to take the same. And further, that I am well acquainted with the handwriting of such Notary and verily believe that the signature to the said certificate of proof or acknowledgment is genuine. I further certify that said Instrument is executed and acknowledged according to the law of the State of New York.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Seal of the said Court and County the 19 day of Dec., 1883.

PATRICK KEENAN,
Clerk.

(Seal)

(Endorsed)

Certificate Increasing
Capital Stock of the
St. Joseph Lead Co.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE
Filed and
Recorded Dec. 20, 1883.

ANSON S. WOOD,
Deputy Secretary of State.

7.

ST. JOSEPH LEAD COMPANY.

Certificate Increasing Capital Stock.
June 14, 1886.

State of New York,
City and County of New York, } ss.:

I, JONATHAN H. CRANE, do hereby certify:

That I am one of the Trustees of the St. Joseph Lead Company, a corporation duly organized under and pursuant to an Act of the Legislature in the State of New York, passed the 17th day of February, 1848, and entitled "An Act to authorize the formation of Corporations for Manufacturing, Mining, Mechanical or Chemical purposes," as now extended and amended.

That the capital stock of said company was fixed by its Certificate of Incorporation at One Million Dollars, and was divided into One Hundred Thousand Shares of the par value of Ten Dollars each.

That on the 20th day of December, 1883, the capital stock of the said company was duly increased to the amount of One Million One Hundred Thousand Dollars and was divided into One Hundred and Ten Thousand Shares of the par value of Ten Dollars each.

That the said company desiring to further increase its Capital Stock, the Trustees thereof did publish a notice signed by more than a majority of them in the New York Commercial Advertiser, a newspaper published in the City and County of New York, in which City and County the principal business office of said company is situated, for three successive weeks prior to the date of the meeting called by the said notice, which said notice was as follows:

"Office of the St. Joseph Lead Company,
No. 55 Liberty Street,

New York City, May 21, 1886.

A special meeting of the stockholders of the St. Joseph Lead Company will be held at the office of the company, No. 55 Liberty Street, in the city of New York, on Monday, June 14, 1886, at 1 o'clock to determine whether the capital stock of the said Company shall be increased from one million one hundred thousand dollars ($1,100,000) to the amount of one million five hundred

thousand dollars ($1,500,000) to consist of one hundred and fifty thousand shares of the par value of ten dollars per share.

J. WYMAN JONES,
HENRY N. DAY,
WILLIAM H. HARRIS,
JONATHAN H. CRANE,
J. J. SYLVESTER,
HUGH N. CAMP,
CHAS. B. PARSONS,
Majority of Trustees."

That the said Trustees did also at least three weeks previous to the day fixed for holding the said meeting, deposit in the post office of the City of New York a printed copy of said notice enclosed in a post-paid envelope addressed to each stockholder at his usual place of residence.

And I do further certify:

That at the time and place specified in the notice published and mailed as aforesaid, that is to say, on the 14th day of June, 1886, at the office of the St. Joseph Lead Company at No. 55 Liberty Street, in the City of New York, at one o'clock in the afternoon, there appeared in person and by proxy stockholders representing more than two-thirds of all the shares of stock of the said company; and that upon motion, duly seconded, the meeting organized by choosing myself, the said Jonathan H. Crane, as Chairman and Hugh N. Camp as Secretary.

That the call for the meeting having been read and proof of the proper publishing and mailing having been presented, the following resolution was adopted:

"RESOLVED: That the St. Joseph Lead Company does increase its capital stock from the present amount thereof, to-wit, the sum of one million one hundred thousand dollars consisting of one hundred and ten thousand shares of the par value of ten dollars per share, to the amount of one million five hundred thousand dollars to consist of one hundred and fifty thousand shares of the par value of ten dollars per share, and that the officers of this meeting are hereby instructed to take the necessary legal steps to perfect such increase of capital."

That the vote of those present, in person or by proxy, upon such resolution being duly canvassed, it appeared that ninety-two thousand and forty-six (92,046) shares of the capital stock of said company, being more than two-thirds of all of the stock thereof, voted in favor of said resolution.

And I do further certify:

That the amount of the Capital Stock of said Company which has been actually paid in is one million one hundred thousand dollars, all of the said stock having been issued for properties required by the said Company in its business.

That the amount of the existing debts and liabilities of the said Company, as nearly as the same can be stated, is one hundred thousand dollars; and that the amount to which the capital stock of the said Company is increased is ONE MILLION FIVE HUNDRED THOUSAND DOLLARS.

IN WITNESS WHEREOF, I have hereunto set my hand and the Secretary of said meeting has countersigned this Certificate this 14th day of June, 1886.

JONATHAN H. CRANE,
Chairman.

Countersigned by
HUGH N. CAMP, Secretary.

State of New York,
City and County of New York, } ss.:

JONATHAN H. CRANE, Chairman, being duly sworn, deposes and says that he has read the foregoing certificate subscribed by him and knows its contents and that the same is in all respects true.

JONATHAN H. CRANE,
Chairman.

Sworn to before me this 14th day of June, 1886.

TUDOR S. JENKS,
(Seal) Notary Public,
Kings County.

Certificate filed in New York County.

State of New York,
City and County of New York, } ss.:

On this 14th day of June, 1886, before me personally came Jonathan H. Crane, to me personally known and known to me to be the person

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State of New York } ss.:
DEPARTMENT OF STATE

I CERTIFY That I have compared the preceding copy with the original Certificate to Increase the Capital Stock of

St. Joseph Lead Company,

filed in this department on the 19th day of July, 1886, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State, at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State

Form 76. 5-26-30-3000 (2-7150)

described in and who executed the foregoing certificate, and he acknowledged to me that he executed the same.

TUDOR S. JENKS,
(Seal) Notary Public,
Kings County,
Certificate filed in New York County.

State of New York,
City and County of New York, } ss.:

I, JAMES A. FLACK, Clerk of the City and County of New York, and also Clerk of the Supreme Court for the said City and County, the same being a Court of Record, DO HEREBY CERTIFY, That Tudor S. Jenks has filed in the Clerk's Office of the County of New York, a certified copy of his appointment as Notary Public for the County of Kings with his autograph signature, and was at the time of taking the proof or acknowledgment of the annexed instrument, duly authorized to take the same. And further, that I am well acquainted with the hand-writing of such Notary, and verily believe the signature to the said certificate of proof or acknowledgment to be genuine.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Seal of the said Court and County, the 17 day of July 1886.

JAMES A. FLACK,
(Seal) Clerk.

(Endorsed):

The St. Joseph Lead Company
Certificate increasing Capital Stock
June 14, 1886

Tax for privilege of increase of
Capital of this Corporation.
$500.00
Under Chapter 143, Law of 1886,
Paid to State Treasurer before Filing.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE
Filed and Recorded July 19 1886
DIEDRICH WILLERS, Deputy Secretary of State.

Certificate Increasing the Capital Stock of The St. Joseph Lead Company.

State of New York,
City and County of New York, } ss.:

This is to certify:

That the St. Joseph Lead Company is a corporation duly organized under an Act of the Legislature of the State of New York, passed February seventeenth, one thousand eight hundred and forty-eight, and entitled: "An Act to authorize the formation of corporations for Manufacturing, Mining, Mechancial, Chemical, Agricultural, Horticultural, Medical or Curative, Mercantile or Commercial purposes," as the same is now amended and extended.

That the capital stock of the said Company was fixed by its certificate of incorporation at one million dollars and consisted of one hundred thousand shares of the par value of ten dollars a share, and that the said capital stock has been heretofore increased under the provisions of the above mentioned Act to the sum of one million five hundred thousand dollars, consisting of one hundred and fifty thousand shares of the par value of ten dollars a share:

That the said Company desiring to further increase its capital stock the trustees thereof did publish a notice signed by more than a majority of them in a newspaper published in the City and County of New York, namely in the New York Times in which said City and County the principal business office of said Company is located and which notice was published as aforesaid for three successive weeks prior to the date of the meeting called thereby and was as follows:

"New York, Dec. 16th, 1890.

"A special meeting of the stockholders of the St. Joseph Lead "Company will be held at the office of the Company, No. 55 Lib-"erty Street in the City of New York on the twenty-fifth day of "February, 1891, at twelve o'clock noon, to determine whether the "capital stock of said Company shall be increased from the sum "of one million five hundred thousand dollars, to the sum of "three million dollars, to consist of three hundred thousand shares "of the par value of ten dollars a share."

J. WYMAN JONES
HUGH N. CAMP
J. H. CRANE
RUSSELL H. HOADLEY
WILLIAM H. HARRIS
LOUIS J. WHITIER
FREDERIC E. CAMP
} Majority of Trustees"

That the ~~same~~ said trustees did also at least three weeks previous to the day fixed upon for holding said meeting, deposit in the Post Office of the City of New York a printed copy of said notice enclosed in a post-paid envelope, addressed to each stockholder at his usual place of residence.

That at the time and place specified in the above notice, that is to say, on the 25th day of February, 1891, at the office of the St. Joseph Lead Company, No. 55 Liberty Street, in the City of New York at twelve o'clock noon, there appeared in person and by proxy stockholders representing more than two-thirds of all of the stock of said company and that the meeting organized by choosing one of the trustees of the Company, namely Geo. S. Dana, as chairman, and Hugh N. Camp, as Secretary, that the notice of the meeting having been read and proof of the proper publishing and mailing thereof having been presented, the following resolution was offered:

> "Resolved, that the St. Joseph Lead Company does increase its capital stock from the present amount thereof, namely, one million five hundred thousand dollars, consisting of one hundred and fifty thousand shares of the par value of ten dollars a share to three million dollars, to consist of three hundred thousand shares of the par value of ten dollars a share, and that the officers of this meeting are instructed to take the necessary steps to perfect such increase of capital."

That the vote of those present being duly canvassed, it appeared that 132,131 shares, being more than two-thirds of all the capital stock of the Company, voted in favor of said resolution, which was thereupon declared carried:

That the entire capital of said Company has been paid in in properties necessary for the business of the Company, that the whole amount of debts and liabilities of the Company is about $50,000 and that the amount to which capital stock of said Company is increased is three million dollars.

IN WITNESS WHEREOF the Chairman of said meeting has hereunto set his hand and the Secretary thereof has countersigned this certificate this 25th day of February, 1891.

GEORGE S. DANA,
Chairman.

Countersigned by
HUGH N. CAMP,
Secy.

State of New York,
City and County of New York, } ss.:

On this 25th day of February, 1891, before me personally came Geo. S. Dana to me known and known to me to be the person described in and who executed the foregoing certificate and he acknowledged to me that he executed the same.

In witness whereof I have hereunto set my hand and affixed my seal on this 25th day of February, 1891.

ARTHUR M. SANDERS,
(Seal) Notary Public, Kings Co.
(Cert. filed in N. Y. Co.)

State of New York,
City & County of New York, } ss.:

GEO. S. DANA, being duly sworn, deposes and says that he has read the foregoing certificate increasing the capital stock of the St. Joseph Lead Company, subscribed by him and that the same is in all respects true.

GEORGE S. DANA.

Sworn to before me this 25th day of February, 1891.

ARTHUR M. SANDERS,
Notary Public, Kings Co.
(Cert. filed in N. Y. Co.)

State of New York } ss.:
DEPARTMENT OF STATE

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I CERTIFY That I have compared the preceding copy with the original Certificate to Increase the Capital Stock of

St. Joseph Lead Company,

filed in this department on the 3rd day of March, 1891, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State, at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank L. Sharp
Deputy Secretary of State

Form 76. 5-26-30-3000 (2-7150)

14

State of New York,
City and County of New York, } ss.:

I, LEONARD A. GIEGERICH, Clerk of the City and County of New York, and also Clerk of the Supreme Court for the said City and County, the same being a Court of Record, DO HEREBY CERTIFY, That Arthur M. Sanders has filed in the Clerk's Office of the County of New York, a certified copy of his appointment as Notary Public for the County of Kings with his autograph signature, and was at the time of taking the proof or acknowledgment of the annexed instrument, duly authorized to take the same. And further, that I am well acquainted with the handwriting of such Notary, and verily believe the signature to the said certificate of proof or acknowledgment to be genuine.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seal of the said Court and County, the 25 day of Feb. 1891.

LEONARD A. GIEGERICH,
(Seal) Clerk.

(Endorsed)

Certificate
Increasing the Capital Stock of
The St. Joseph Lead Company.

Tax for privilege of increase of capital
of this Corporation.
$1,875.00
Under Chapter 143, Laws of 1886, Paid
to State Treasurer before Filing.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE
Filed and
Recorded Mar. 3, 1891.
TH. E. BENEDICT,
Deputy Secretary of State.

ac
mt.

Certificate of Increase of Capital Stock of the St. Joseph Lead Company.

WE, the undersigned, George S. Dana, Chairman, and Hugh N. Camp, Jr., Secretary, respectively, of a special meeting of the stockholders of the St. Joseph Lead Company, a domestic corporation, held for the purpose of increasing its capital stock, do hereby certify:

That prior to such meeting a notice, stating the time, place and object thereof, and the amount of the increase proposed, signed by the president and the secretary, was published once a week, for at least two successive weeks, in the New York Times, a newspaper in the County where the principal business office of such corporation is located.

That the following is a true copy of such notice:

> A Special Meeting of the stockholders of the St. Joseph Lead Company will be held at the office of the Company, 55 Liberty Street, New York City, on the 10th day of December, 1902, at eleven A. M., to vote upon a proposition to increase the capital stock of the Company from its present authorized capital of $3,000,000 consisting of 300,000 shares of $10 per share, to $6,000,000 to consist of 600,000 shares of $10 per share.
>
> By order of the Directors.
>
> J. WYMAN JONES,
> President.
> HUGH N. CAMP, JR.,
> Secretary.
>
> Dated, New York, November 20th, 1902.

That a copy of such notice was also duly mailed, postage prepaid, to each stockholder of such corporation, at his last known post-office address, at least two weeks before the meeting.

That at the time and place specified in such notice, stockholders appeared in person or by proxy, in numbers representing at least a majority of all the shares of stock of such corporation, and organized said meeting by choosing from their number the undersigned, George S. Dana, as chairman, and Hugh N. Camp, Jr., as secretary thereof.

That the notice of the meeting and proof of the proper publishing and mailing thereof was presented.

That upon motion, a vote was taken of those present in person or by proxy upon the following resolution:

Resolved that the capital stock of the St. Joseph Lead Company be increased from the present amount thereof, to wit: three million dol-

lars, consisting of three hundred thousand shares of the par value of ten dollars each, to six million dollars to consist of six hundred thousand shares of the par value of ten dollars each.

That stockholders owning 217,311 shares of stock, being at least a majority of all the stock of the corporation, voted in favor of such resolution, and that no stockholder voted against its adoption.

That a sufficient number of votes having been cast in favor of such increase, such resolution was declared duly adopted.

That the amount of ~~the~~ capital of said corporation heretofore authorized was three million dollars and the proportion thereof actually issued is two million five hundred thousand dollars, and that the amount of the increased capital stock is six million dollars.

In witness whereof we have made, signed, verified and acknowledged this certificate in duplicate.

Dated this 10th day of December, 1902.

GEORGE S. DANA,
Chairman.
HUGH N. CAMP, JR.,
Secretary.

State of New York,
County of New York, } ss.:

GEORGE S. DANA, chairman, and HUGH N. CAMP, JR., secretary, respectively, of the aforesaid meeting, being ~~severally~~ duly sworn, do depose and say and each for himself deposes and says that he has read the foregoing certificate subscribed by him and knows its contents and that the same is true.

GEORGE S. DANA.
HUGH N. CAMP, JR.

Sworn to before me this 10th
day of December, 1902.

WALTER N. JACKSON,
Notary Public, (2)
New York County, N.Y.

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State of New York, }
County of New York, } ss.:

On this 10th day of December, 1902, before me personally came George S. Dana and Hugh N. Camp, Jr., to me personally known to be the persons described in and who made, signed and verified the foregoing certificate and severally duly acknowledged to me that they made, signed and verified the same for the uses and purposes therein set forth.

(Seal) WALTER N. JACKSON,
Notary Public, (2)
New York County, N. Y.

(Endorsed)

Certificate
of
Increase of Capital Stock
of the
St. Joseph Lead Company.

Tax for privilege of increase of capital
of this Corporation.
$1500
Under Chapter 448, Laws of 1901.
Paid to
State Treasurer before Filing.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE
Filed and
Recorded Dec 11 1902
J. B. H. MONGIN,
Deputy Secretary of State.

MS
MC

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State of New York } ss.:
DEPARTMENT OF STATE }

I CERTIFY That I have compared the preceding copy with the original Certificate to Increase the Capital Stock of

St. Joseph Lead Company,

filed in this department on the 11th day of December, 1902, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State, at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State

Form 76. 5-26-30-3000 (2-7150)

Certificate of Increase of Capital Stock of the St. Joseph Lead Company.

We the undersigned, George S. Dana, Chairman, and E. C. Smith, Secretary, respectively, of a special meeting of the stockholders of the St. Joseph Lead Company, a domestic corporation, held on this thirty-first day of January, 1906, for the purpose of increasing its capital stock, do hereby certify:

That prior to such meeting a notice, stating the time, place and object thereof, and the amount of the increase proposed, signed by the president and the secretary, was published once a week, for at least two successive weeks, in the New York Times, a newspaper in the County where the principal office of the corporation is located.

That the following is a true copy of this notice:

> A special meeting of the stockholders of the St. Joseph Lead Company will be held at the office of the Company, 5 Nassau Street, New York City, on the 31st day of January, 1906, at eleven A. M. to vote upon a proposition to increase the capital stock of the company from its present authorized capital of $6,000,000 consisting of 600,000 shares of $10 per share, to $20,000,000 to consist of 2,000,000 shares of $10 per share.
>
> By order of the directors.
>
> DWIGHT A. JONES,
> President.
>
> E. C. SMITH,
> Secretary.
>
> Dated New York, January 12, 1906.

That a copy of this notice was also duly mailed, postage prepaid to each stockholder of such corporation, at his last known post office address, at least two weeks before the meeting.

That at the time and place specified in this notice stockholders appeared in person or by proxy, in numbers representing at least a majority of all the shares of stock of such corporation, and organized said meeting by choosing from their number the undersigned George S. Dana as chairman and E. C. Smith as Secretary thereof.

That the notice of the meeting and proof of the proper publishing and mailing thereof was presented.

That upon motion, a vote was taken of those present in person or by proxy upon the following resolution:

Resolved that the capital stock of the St. Joseph Lead Company be increased from the present amount thereof, namely, six million dollars, consisting of six hundred thousand shares of the par value of ten dollars each, to twenty million dollars to consist of two million shares of the par value of ten dollars each.

That stockholders owning 441,919 shares of stock, being at least a majority of all the stock of the corporation, voted in favor of such resolution, and that no stockholder voted against it.

That a sufficient number of votes having been cast in favor of this increase, such resolution was declared duly adopted.

That the amount of capital of said corporation heretofore authorized was six million dollars and the proportion thereof actually issued is four million nine hundred and fifty-six thousand five hundred and ten dollars, and that the amount of the increased capital stock is twenty million dollars.

IN WITNESS WHEREOF we have made, signed, verified and acknowledged this certificate in duplicate.

Dated this 31st day of January 1906.

George S. Dana
E. C. Smith

State of New York,
County of New York, } ss.

GEORGE S. DANA, Chairman, and E. C. SMITH, Secretary, respectively, of the aforesaid meeting, being severally sworn, do depose and say, and each for himself deposes and says, that he has read the foregoing certificate subscribed by him and knows its contents and that the same is true.

GEORGE S. DANA.
E. C. SMITH.

Sworn to before me this 31st day of January 1906.

L. C. FERGUSON,
(Seal) Notary Public,
N. Y. Co.

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State of New York } ss.:
DEPARTMENT OF STATE

I CERTIFY That I have compared the preceding copy with the original Certificate to Increase the Capital Stock of

St. Joseph Lead Company,

filed in this department on the 1st day of February, 1906, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State, at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State

Form 76. 5-26-30-3900 (2-7150)

State of New York, }
County of New York, } ss.:

On this 31st day of January, 1906, before me personally came George S. Dana and E. C. Smith, to me personally known to be the persons described in and who made, signed and verified the foregoing certificate and severally duly acknowledged to me that they made, signed and verified the same for the uses and purposes therein set forth.

L. C. FERGUSON,
Notary Public,
N. Y. Co.

(Seal)

(Endorsed)

Certificate of Increase of Capital Stock
of the
St. Joseph Lead Company.

Dated January 31st, 1906.

Tax for privilege of increase of capital
of this Corporation.
$7,000.—
Under Chapter 448, Laws of 1901.
Paid to
State Treasurer before Filing.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE
Filed and
Recorded Feb. 1-1906.

JOHN F. O'BRIEN,
Secretary of State.

State of New York,
City & County of New York, } ss.:

The undersigned, a majority of the Trustees of the St. Joseph Lead Company, a corporation organized on the 24th of March, 1864, under the laws of the State of New York & in pursuance of the "Act to authorize the formation of corporations for manufacturing, mining, mechanical and chemical purposes" passed February 17th, 1848, hereby certify and declare that the said corporation shall have nine trustees in the future management of its business instead of seven, as stated in the original certificate of organization thereof; and that the names of the new and additional trustees are Hugh N. Camp and Marshall Lefferts, both of the State of New York.

Dated New York, August 28th, 1867.

WILMOT WILLIAMS.
J. C. BARLOW.
JAS. R. KNAPP.
FREDK. LACEY.
J. WYMAN JONES.

State of New York,
City & County of New York, } ss.:

On the 28th day of August, 1867, before me personally appeared Wilmot Williams, J. C. Barlow, Jas. R. Knapp, Fredk. Lacey and J. Wyman Jones, known to me and to be the same individuals whose names are subscribed to the foregoing certificate, & also to me known to be Trustees of the St. Joseph Lead Company, I having made known to them the contents thereof severally acknowledged that they signed the foregoing certificate for the uses and purposes therein mentioned.

CHARLES NETTLETON,
Notary Public for N. Y. Co., N. Y.

"Endorsed" Filed August 29, 1867.

2264

State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY That I have compared the preceding copy with the certified copy of Certificate of Increase of Number of Trustees of the

St. Joseph Lead Company,

filed in this department on the 30th day of August, 1867, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State.

Form 83. 1-14-31-5000 (2-4695)

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State of New York,
City and County of New York, } ss.:

I, WILLIAM C. CONNER, Clerk of the said City and County, and Clerk of the Supreme Court of said State for said County,

Do CERTIFY, That I have compared the preceding with the original Certificate of Increase of Trustees of the St. Joseph Lead Company on file in my office, and that the same is a correct transcript therefrom, and of the whole of such original.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal, this 29th day of August 1867.

WM. C. CONNER.
(Seal) Clerk.

(Cancelled Revenue Stamp 5c)

(Endorsed)
Certificate of Increase of Trustees
of the
St. Joseph Lead Company.
Filed Augt. 30th 1867.
HORACE G. TENNANT,
Second Depy. Sec. of State.
Signed June 29, 1910, pursuant to
Chapter 23, Laws of 1909.

MS
ME

Transcript of Proceedings of Special Meeting of the Stockholders of the St. Joseph Lead Company, a Domestic Corporation, Entered in the Minutes Thereof for Changing the Number of Directors or Trustees by Increasing the Same to Thirteen.

WE, the undersigned, do hereby certify that the following is a true and correct transcript of the minutes of proceedings of the meeting of the stockholders of the St. Joseph Lead Company duly held on December 9, 1913, pursuant to Article II, Section 26 of the Stock Corporation Law and of the acts amendatory thereof for the purpose of determining, among other things whether the number of directors or trustees of said Company should be increased from nine to thirteen and of the whole of the proceedings of such meeting concerning such increase of directors, to wit:

A Special Meeting of the stockholders of the ST. JOSEPH LEAD COMPANY was held at the office of the Company, No. 5 Nassau Street, Borough of Manhattan, City, County and State of New York on the 9th day of December, 1913, at eleven o'clock in the forenoon.

In the absence of the President and of the Secretary of the Company the meeting was duly organized by the Vice-President, Mr. Edward C. Smith, acting as President of the meeting and by choosing Mr. Leonidas H. Besson as Secretary thereof.

At the direction of the President of the meeting the Secretary called the roll and the following stockholders owning 732,183 shares of the one million issued shares of the capital stock of the Company, being more than a majority thereof were found to be present in person or by proxy:

Present in Person:

Name	Shares
Clinton H. Crane	14,085
Edward C. Smith	14,027
Hugh N. Camp, Jr.	11,317
Robert Holmes	2,930
Edward H. Kidder	2,500
George S. Dana	8,062
Daniel K. Catlin	1,000
Roscoe R. S. Parsons	1,858
Benjamin H. Dwight	1,600

Henry J. Stehli	74	
Carl H. Fowler	3,000	
L. H. Besson	1,916	
Charles H. Werner	20	
Henry H. Wheeler	2,137	
Daniel N. Kirby	1,150	64,776

Present by Proxy:

Name	Proxy	Shares
Myra H. Fowler	Carl H. Fowler	4,000
Felicite Stehli	Henry J. Stehli	48
Helen Fallows Williams	Charles S. Fallows	2,640
Elizabeth D. Carberry	Benjamin H. Dwight	2,044
Alice Harris Allen	John P. Allen	2,811
Mary B. Sawyer	Daniel K. Catlin	500
Mary Prentiss Smith	" "	50
Henry J. Bristow	Henry N. Curtis	600
Chauncey Marshall	" "	3,750
James R. Steers	" "	2,500
A. S. Barada	Roscoe R. S. Parsons	50
Jennie E. Bowman	" "	23
Onna G. Roy, Trustee	" "	25
Lucie B. Wheeler	Henry H. Wheeler	83
Georgianna H. Wheeler	" "	92
Martha E. Wheeler	" "	2,300
Elizabeth H. Wheeler	" "	500
Henry Hathaway Wheeler	" "	280
Edith N. Wheeler	" "	20
Mary H. Billings	" "	5,000
Lizzie Dirk	E. C. Smith	200
Fisher, Semple & Co.	" "	278
J. Gregory Smith	" "	1,250
J. H. Timmerman, Trustee for G. H. Timmerman Estate	E. C. Smith	5,000
T. U. Young	" "	300
Thomas U. Young	" "	200
Roscoe R. S. Parsons, Trustee	" "	4,500
J. F. Obernier	" "	250
George F. Barnes	Hugh N. Camp, Jr.	77
F. H. Dearing	" "	3,239
Charles P. Elvins	" "	20

Lizzie Elvins	"	"	20
Politte Elvins	"	"	260
F. P. Graves	"	"	8,850
F. R. Hutton	"	"	574
Lefferts Hutton	"	"	250
Charles E. Johnson	"	"	358
B. W. Jones	"	"	1,500
Name	Proxy		Shares
George S. Levis	"	"	204
Mary R. Martin	"	"	500
S. A. Martin, Agent	"	"	100
Fanny S. C. Millar	"	"	658
Charles W. Prescott	"	"	2,250
Henry B. Quinby	"	"	1,250
Octavia C. Quinby	"	"	850
Edward A. Rozier	"	"	300
Johanna Schwaebe	"	"	78
Caroline Schwaebe	"	"	640
E. F. W. Schwaebe	"	"	1,491
Robert Sellors	"	"	1,023
Robert Sellors, Trustee	"	"	300
Gust Setz	"	"	19,666
Mary St. Gem Smith	"	"	200
Estate of K. W. Weber	"	"	32
Mary W. White	"	"	820
Elsie S. Williams	"	"	170
Richard M. Everett	Robert Holmes		250
Emma A. Olendorf	"	"	501
Pearl E. Porter	"	"	100
Kate A. Stevens	"	"	17
James D. Street	"	"	1,000
Wm. Wagner	"	"	53
John Wagner	"	"	64
Ella C. Bradley & Geo. D. Watrous, Trus. F. S. Bradley Estate	"	"	1,806
Charles D. Davol	"	"	611
G. W. Dulany	"	"	2,250
D. R. Fitroy	"	"	10
John A. Holmes	"	"	5,881
John A. Holmes, Trustee	"	"	175
John A. Holmes, Trustee	"	"	2,619

Name	Proxy	Shares
J. Howard Holmes	" "	2,920
F. G. Kersting	" "	60
Annie E. Linley	" "	7,798
E. K. Ludington	" "	9,960
Georgene L. Miller	" "	10
Otto W. Reinders	" "	3,166
G. H. Shields, Trustee	" "	20
Eugene C. Smith	" "	500
Carrie H. Steedman	" "	4,312
Charlotte I. Thompson	" "	394
R. H. Thompson	" "	116
R. H. Thompson, Trustee	" "	6
R. H. Thompson, Trustee	" "	9
R. H. Thompson, Jr.	Robert Holmes	6
John E. Thompson	" "	100
Kate T. Williams	" "	341
Florence Holmes Woodruff	" "	3,675
Kate C. Evans	" "	568
Edwin H. Basse	" "	100
Frances H. Cline	" "	35
Frederick A. Cline	" "	500
Henry W. Barret	Clinton H. Crane	1,372
O. M. Bilarz	" "	1,115
Cora Louise Bookmiller	" "	109
Ella J. Burns	" "	4,500
Josephine C. Cobb	" "	500
Zoe D. Cobb	" "	2,786
Sophie M. Codman	" "	124
Jules Desloge	" "	7,051
James R. Finlay	" "	900
Isaac D. Fletcher	" "	3,500
Elizabeth S. Hawkes	" "	1,754
Julia B. Heyburn	" "	842
Name	**Proxy**	**Shares**
Louise J. McAnany	" "	654
Clara D. Pike	" "	1,101
Alice Durant Smith	" "	50
Susan E. Smith	" "	214
James M. Townsend, Jr.	" "	250

Kate S. Townsend	"	"	850
Union & New Haven Trust Co., Trustee	"	"	654
Jacob L. White	"	"	100
Grace Williams	"	"	1,462
F. Desloge	"	"	26,960
Jane E. Parsons, Roscoe R. S. Parsons and Gerard S. Parsons, Trustees of the trust created by the 3rd Section of the will of Charles B. Parsons	"	"	38,417
Jane E. Parsons, Roscoe R. S. Parsons and Gerard S. Parsons, Trustees for Jane Knapp and Dorothy W. Knapp, Minors	"	"	1,141
A. S. Dwight	"	"	1,725
George H. Townsend	"	"	2,352
Henry H. Townshend, Trustee	"	"	838
Julia C. Rosenfeld	"	"	1,300
Estate of A. S. Rosenbaum	"	"	2,272
George L. Allen	"	"	33,550
Estate A. Morton Allen	"	"	5
Francis I. Amory, Trustee	"	"	500
Jean H. Atwater	"	"	370
Helen C. Atwater	"	"	370
Helen G. Atwater	"	"	740
Harriet E. P. Augur	"	"	264
Katie A. Baker	"	"	1,000
Robert H. Ballman	"	"	50
Mrs. Fanny Bender	"	"	112
Bessie Barr	"	"	500
Name	Proxy		Shares
Becker & Lewis	"	"	100
L. C. Besson	"	"	200
Mary Bell Betts	"	"	25
Jessie Parsons Blewett	"	"	2,900
Ben Blewett	"	"	700
Anna B. Bliss	"	"	9,500
Tappen Bowne	Clinton H. Crane		102
Fanny L. Bowne	"	"	188
Sarah A. Bowne	"	"	188
Johnanna R. Bullock	"	"	3,674

Laura M. Bunce	"	"	3,836
William Burg	"	"	100
William R. Bush	"	"	100
Elizabeth Parsons Bush	"	"	2,322
A. G. Brauer	"	"	100
Hudson E. Bridge	"	"	2,046
Helen D. Bridge	"	"	314
John J. Broderick	"	"	400
Anna C. Brokaw & St. Louis Union Trust Co., Trustees	"	"	13,162
Clarence A. Brown	"	"	42
Marie Louise Bryan	"	"	1,312
Velma Buck	"	"	1,443
Elizabeth D. Camp	"	"	4,894
Estate of Hugh N. Camp	"	"	12,364
Estate of Frederic E. Camp	"	"	32,154
Candace E. Q. Camp	"	"	5,300
Daniel Catlin	"	"	9,000
Ephron Catlin	"	"	1,360
Madeleine V. Chandler	"	"	562
John P. H. Chandler	"	"	3,594
Charles M. Chapin	"	"	17,138
Esther M. Chapin	"	"	524
Charles M. Chapin, Trustee	"	"	7,144
Christine Charles	"	"	790
W. B. Charles, Jr.	"	"	790
Flora E. Clark	"	"	82
David A. Clearman	"	"	93
Henry B. Collins	"	"	4,366
Ruth Arven Cornell	"	"	500
Isabel W. Cornwall	"	"	1,312
C. M. Clearman	"	"	93
Mary A. Countryman	"	"	328
Elizabeth A. Crane	"	"	8,674
Henry M. Crane	"	"	15,873
Rebecca Riggs Crane	"	"	4,040
Jenny F. Dana	"	"	654
H. N. Davis	"	"	504
H. N. Davis, Trustee	"	"	377
George S. Davol	"	"	767
Asa W. Day	"	"	400

Endora B. Dean, Executrix of Geo. W. Dean	"	"	2,416
Eliza K. Dean	"	"	400
J. D. De Buchanne	"	"	50
Charles Deering, Trustee for Barbara Deering	"	"	365
Charles Deering, Trustee for Marion Deering	"	"	365
Charles Deering, James Deering & Richard Howe, Trustees	"	"	8,770
Roger Deering	"	"	366
William Deering	"	"	6,578
Arnold Diehl	"	"	50
Mary Dodds	"	"	200
Albert M. Doll	"	"	50
Wm. R. Donaldson, Jr.	"	"	524
Name	Proxy		Shares
John I. H. Downes	"	"	1,482
William H. Downes	"	"	740
G. L. Edwards	Clinton H.	Crane	150
A. G. Edwards & Sons	"	"	200
Eugenia H. Edmunds	"	"	6,830
David Eiseman	"	"	200
Morris Eisenstadt	"	"	100
Hermann Elfers	"	"	100
David G. Evans	"	"	340
C. H. Fake	"	"	400
Annie B. Smith Fonda	"	"	1,327
Timothy H. Fowler	"	"	300
Timothy H. Fowler, Guardian	"	"	62
Mary R. Frost	"	"	500
James M. Gettys	"	"	960
Thos. B. Gettys	"	"	170
Lizzie S. Gilkeson	"	"	1,312
Clara da C. Gomez	"	"	824
Henry Greve	"	"	100
Josephine Greve	"	"	200
Jos. M. Hayes	"	"	1,001
Marion Johns Hickok	"	"	60
Adolph J. Hildebrand	"	"	100
Estate of Russell H. Hoadley	"	"	5,174

Harriette H. Hoadley	"	"	557
Annie M. Hodgman	"	"	523
Joseph G. Holliday, Trustee	"	"	2,670
Joseph G. Holliday	"	"	1,160
Sam'l N. Holliday	"	"	60
Mrs. Kate M. Howard	"	"	7,312
Richard F. Howe	"	"	2,192

Name	Proxy		Shares
Richard F. Howe, Trustee	"	"	2,192
Ada M. Hunt	"	"	250
Grace L. Hutton	"	"	1,610
Harry H. Hyatt	"	"	1,188
Edw. K. Hyatt	"	"	1,067
Julia C. Jayne	"	"	200
Maria DeWitt Jesup	"	"	30,036
Edward Jewett	"	"	489
Emily Lefferts Jones	"	"	200
O. W. Jones	"	"	300
Nellie B. Kaufman	"	"	100
Edith Collins Kennerly	"	"	4,932
Eli King	"	"	250
Caroline L. Kirby	"	"	200
Max Kotany	"	"	1,050
Wm. H. Kruse	"	"	50
Ladd & Wood	"	"	2,000
E. C. Lackland, Jr.	"	"	15
Laidlaw & Co.	"	"	1,000
D. Y. Layton	"	"	125
George M. Lefferts	"	"	750
F. R. Lefferts	"	"	654
Elizabeth M. Lefferts	"	"	1,000
John H. Lewis	"	"	3,900
E. M. T. Lindsley	"	"	184
Edgar Littman	"	"	80
Kate H. Lockwood	"	"	300
Katherine B. Lockwood	"	"	30
H. B. Louderman	"	"	8,500
Wm. M. Louderman	"	"	1,000
Henry Luedinghaus, Jr.	"	"	170
F. S. Male	"	"	375
Mabel Lefferts Marshall	"	"	500
Emeline F. May	"	"	33

Name	Proxy		Shares
Clara May	"	"	95
Harry B. McGown	"	"	200
Leila S. McKesson	"	"	806
John McKesson, Jr.	Clinton H.	Crane	4,936
Mary H. Mitchell	"	"	1,054
Isabel W. Morris	"	"	14
Josephine Mueller	"	"	1,060
Adelaide H. Munroe	"	"	8,870
Vernon Munroe	"	"	3,750
William Murdoch	"	"	50
Elizabeth Marquis Musick	"	"	35
Sophia R. Olmstead	"	"	326
Mary S. Olmstead	"	"	326
Susan H. Olmstead	"	"	332
J. W. Otto	"	"	262
Marjorie N. Outcalt	"	"	790
Guido Pantaleoni	"	"	650
Elizabeth S. Parsons	"	"	200
John R. Payken	"	"	4,835
Mrs. H. H. Peters	"	"	50
M. Hayward Post, Jr.	"	"	41
Rudolph F. Payken	"	"	50
A. H. Reller	"	"	124
Alice M. Reller	"	"	5
Marie Reller	"	"	30
J. F. O. Reller	"	"	7
Mary B. Ricker	"	"	450
Helen E. Ricker	"	"	500
Jennie E. Ricker	"	"	400
Mrs. Clara Ricker Armstrong, nee Clara H. Ricker	"	"	500
Rebecca F. Riggs	"	"	500
Julius Rodach	"	"	76
Marie H. Rodach	"	"	76
Mrs. Mary Rodach	"	"	76

Name	Proxy		Shares
Minnie Sahrman	"	"	117
Richard Salzgeber	"	"	100
Fred Schaffly	"	"	60

Louise Gardner Semple	"	"	404
Charles H. Semple	"	"	100
Charles H. Semple, Trustee	"	"	278
Caroline Seitz	"	"	100
Mary E. Shepard	"	"	1,771
John F. Shepley, Trustee	"	"	1,498
James M. Sherman	"	"	262
Fred W. Sladen	"	"	31
Annie B. Smith	"	"	930
Anna J. Smith	"	"	976
George Gregory Smith	"	"	400
Edward F. Smith	"	"	250
Curtis R. Smith	"	"	250
Dorothea B. Smith	"	"	250
Edmond H. Smith	"	"	310
J. Herndon Smith	"	"	1,725
Smith, Moore & Co.	"	"	2,300
George P. Steele	"	"	172
Mark C. Steinberg	"	"	455
Lillian E. Steinhoff	"	"	200
Frances Stevens	"	"	120
Herman C. Stifel	"	"	2,020
St. Louis Union Trust Co., Trustee for Velma Buck	"	"	3,263
St. Louis Union Tr. Co., Trustee under will of D. S. Holmes	"	"	13,538
St. Louis Union Tr. Co., Trustee for Harriet J. Dorsey	"	"	1,000
St. Louis Union Tr. Co., Trustee for Myron B. Horton	Clinton H. Crane		1,626
St. Louis Union Tr. Co., Trustee for Mabel G. Thompson	"	"	8
St. Louis Union Tr. Co., Trustee for Harold R. Green	"	"	8
Name	Proxy		Shares
W. B. Symmes, Jr.	"	"	100
Gladys Dwight Symmes	"	"	600
Caroline Tappen	"	"	1,404
F. J. Thomure	"	"	4,749
H. E. Thomure	"	"	200

Frederick A. Townsend	"	"	188	
William B. Trask	"	"	633	
Tyler Estate	"	"	2,624	
Union Tr. Co. of St. Louis, Trustee	"	"	272	
for Helen E. Durkee	"	"	180	
Union Tr. Co. of St. Louis, Trustee for Laura C. Durkee Todd	"	"	~~180~~	
Union Tr. Co. of St. Louis, Trustee under will of John W. Turner, de'd	"	"	200	
H. B. Van Dien	"	"	1,107	
H. B. Van Dien, Trustee	"	"	10	
Katherine Harris Veeder	"	"	790	
Josephine Waldeck	"	"	50	
M. F. Watts	"	"	485	
James H. Wear	"	"	100	
Nannie E. Wear	"	"	100	
Ora G. Weber	"	"	160	
H. H. Wellman	"	"	1,258	
Whitaker & Co.	"	"	100	
Louise Whitin	"	"	1,974	
Lucy Morgan Whitin	"	"	1,976	
Catharine J. Whiting	"	"	741	
W. Hull Wickham	"	"	300	
Emily C. Wickham	"	"	100	
E. H. Wolff	"	"	1,000	
Anna B. Williams	"	"	2,840	
Anna B. Williams, Trustee for Lucy B. Ighina	"	"	300	
Anna B. Williams, Trustee for May E. Schonnagel	"	"	300	
Anna B. Williams, Trustee for W. A. Bartlett	"	"	100	
Name	Proxy		Shares	
Estate of Perry P. Williams	"	"	56	
Joseph Zumbalen	"	"	400	
Estate of Mary L. Kidder	Edward H. Kidder		350	
				667,407
Total				732,183

The Secretary announced that as provided in the By-Laws of the Company and in accordance with the provisions of the Stock Corporation Law, Article II, Section 26 and the acts amendatory thereof, this special meeting has been called by the Board of Trustees at a meeting held by them on the twenty-fourth day of November, 1913. He thereupon produced and read the notice of the meeting, which was as follows:

ST. JOSEPH LEAD COMPANY,
5 Nassau Street,
New York City.

NOTICE is hereby given that a special meeting of the stockholders of the ST. JOSEPH LEAD COMPANY, called by the Board of Trustees of that Company, will be held at the principal office of the Company, No. 5 Nassau Street, Borough of Manhattan, City, County and State of New York, on the ninth day of December, 1913, at eleven o'clock in the forenoon for the purpose of presenting to the stockholders for consideration and action the following matters, *i. e.*, the matter of approving and adopting the recommendations of the Joint Committee of Stockholders of the Doe Run Lead Company and St. Joseph Lead Company as contained in the report of said Committee, dated September 10, 1913; the matter of ratifying and approving the action taken by the trustees and officers concerning the subject matter of said report, including the employment of a consulting engineer, the settlement as made of the suit of Robert Holmes *et al.*, against the St. Joseph Lead Company *et al.*, and the payment of the expenses of said suit; the matter of authorizing the trustees and officers to take such further action in respect to the subject matter of said report or any part thereof as may be necessary or advisable, including the acquiring of the assets of the Doe Run Lead Company or the acquiring of not less than eighty per cent. of the capital stock of that Company and the issuing of $5,000,000 par value of the authorized capital stock of this Company for either of such purposes; the matter of increasing the number of the trustees of this Company from nine (9) to thirteen (13); the matter of amending the By-Laws of the Company in reference to the number of trustees, their election and meetings, in reference to the method of signing checks, drafts and notes of the Company; the matter of authorizing such action as may be desirable and appropriate in respect of the funding or refunding of debts, the issue of obligations or securities or any other proposition which may affect the financial condition or financial plans of the Company; the matter of considering and acting upon such questions incident to

the foregoing subject matters, or any of them, as may be presented at said meeting.

Dated November 24, 1913.

By order of the Board of Trustees,

IRWIN H. CORNELL,
Secretary.

The Secretary reported that the above notice had been published at least once a week for two successive weeks immediately preceding the date of the meeting in the New York Times, a newspaper published in the County of New York and had been mailed to each stockholder of record at his last known post office address on the twenty-fourth day of November, 1913, a date more than two weeks prior to the date of this meeting and that proof in the form of affidavits, of such publication and mailing had been duly filed in the office of the corporation before the time of the holding of this meeting.

The following resolution was thereupon duly offered for adoption by Mr. Charles H. Werner and duly seconded by Mr. Daniel N. Kirby:—

RESOLVED that the number of Trustees of the St. Joseph Lead Company be and hereby is increased from nine (9), the present number, to thirteen (13), and that the President and Secretary of this meeting be and they hereby are authorized and directed to verify transcripts of the minutes of this meeting containing this resolution and to cause the same to be filed in the office of the Secretary of State of the State of New York and in the office of the Clerk of the County of New York.

Upon a canvass of the votes cast upon said resolution it was found that stockholders owning 732,183 shares of the one million (1,000,000) shares of the capital stock of the corporation, being more than a majority thereof and of all the votes cast at the meeting had voted in favor of such resolution and such resolution was thereupon declared duly adopted.

The president of the meeting then announced that the additional four trustees authorized by such increase would be elected by the votes of the majority of the trustees now in office as provided by Section 26 of the Stock Corporation Law of the State of New York.

The following resolutions were duly offered for adoption by Mr. Daniel N. Kirby and duly seconded by Mr. George S. Dana:

State of New York,
City and County of New York, } ss.:

EDWARD C. SMITH and LEONIDAS H. BESSON, being severally duly sworn, each for himself, deposes and says that he the said Edward C. Smith was the President and that he the said Leonidas H. Besson was the Secretary of the meeting of stockholders of the ST. JOSEPH LEAD COMPANY

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RESOLVED that Article IV and VII of the By-Laws of this Company be amended so as to read as follows:

"IV.

ELECTION OF TRUSTEES.

The affairs of the Company shall be managed by thirteen trustees, all of whom shall be elected by ballot for the term of one year each at every annual meeting."

"VII.

MEETINGS OF TRUSTEES.

Meetings of the Board of Trustees of the Company shall be held as often as may be necessary upon the call of the President or any three of the Trustees upon at least three days' notice in writing. Such meeting may be held either at the office of the Company in the City of New York or at the office of the Company in the State of Missouri or at some place in the City of St. Louis, Missouri, provided, however, that at least two meetings in each year shall be held in the latter state. Seven Trustees shall constitute a quorum for the transaction of business."

Upon a canvass of the votes cast upon said resolution it was found that stockholders owning 732,183 shares of the one million issued shares of the capital stock of the Company, being more than a majority thereof and more than two-thirds of the stock represented at the meeting, had voted in favor of said resolutions and the same were thereupon declared duly adopted and articles IV and VII of the By-Laws duly amended as therein provided.

IN WITNESS WHEREOF, we have made, signed and verified this certificate and transcript in duplicate this 9th day of December, 1913, at four o'clock in the afternoon thereof.

EDWARD C. SMITH,
President of the Meeting.

LEONIDAS H. BESSON,
Secretary of the Meeting.

Big River Mine Tailings PRP Search Report
Known PRP Viability Search

Part 2 - Viable PRP Packets
Doe Run Lead Company

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IN WITNESS WHEREOF, we have made, signed and verified this certificate in duplicate this 19th day of February, 1917.

(Corporate Seal)

CLINTON H. CRANE,
President.

LEONIDAS H. BESSON,
Secretary.

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State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY that I have compared the preceding copy with the original Certificate to Reduce the number of Trustees of

Saint Joseph Lead Company,

filed in this department on the 23rd day of February, 1917, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State

Form 75. 5-26-30-3000 (2-7149)

We, the undersigned, President and Secretary of the St. Joseph Lead Company, under the seal of the said corporation, do hereby certify that the said corporation was organized in the State of New York on the 25th day of March 1864, with a corporate existence of fifty years; that on the 20th day of May, 1909, the stockholders of the said corporation held a special meeting at the office of the company in the city of New York, called upon the same notice required for the annual meeting of the corporation, for the purpose of extending the existence of said corporation, and we do further certify that at the said meeting stockholders owning 851,211 shares, being more than two-thirds of the amount of the outstanding capital stock of said corporation, voted to extend the existence of said corporation in perpetuity, and there were no votes in opposition thereto.

Dated May 20th, 1909.

DWIGHT A. JONES,
President.
EDWARD C. SMITH,
Secretary.

(Corporate Seal)

State of New York,
County of New York, } ss.:

On this 17th day of June, 1909, before me personally came Dwight A. Jones and E. C. Smith, to me known and known to me to be the individuals described in and who executed the foregoing certificate, and they severally acknowledged to me that they executed the same.

WILLIAM E. DOBBIN,
Notary Public.

(Seal)

(Endorsed)

Certificate of Extension of Corporate Existence.

St. Joseph Lead Company.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE

Filed and Recorded June 25, 1909.

SAMUEL S. KOENIG, Secretary of State.

MS
ME

State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY That I have compared the prec
copy with the **original Certificate of Extension of Corporate Existen**

St. Joseph Lead Company,

filed in this department on the **25th** day of **June** , 1 **909**, and that
copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of
at the City of Albany, this **twenty-ninth**
of **May,** one thousand nine hun
and thirty-**one.**

Frank S. Shar
Deputy Secretary of Sta

Form 83. 1-14-31-5000 (2-4695)

Certificate of Extension of Purposes, Powers and Provisions of Saint Joseph Lead Company.

We, the undersigned, Clinton H. Crane, President, and Leonidas H. Besson, Secretary, of Saint Joseph Lead Company, a domestic stock corporation, desiring to alter its certificate of incorporation so as to include therein other purposes, powers or provisions, pursuant to the provisions of the Stock Corporation Law of the State of New York, do hereby make and file this amended certificate for such purpose, and do certify as follows:

That the name of the corporation whose certificate of incorporation is hereby altered is Saint Joseph Lead Company.

That the alteration proposed and intended to be effected by the execution and filing of this amended certificate consists in the alteration of the certificate of incorporation of said company so as to include other purposes, powers and provisions in addition to those now set forth therein, by amending Section Second of said certificate so that the same shall read as follows:

> "SECOND. The objects for which this corporation is formed are to do any of the things herein set forth to the same extent as natural persons might, and in any part of the world, to-wit:—To conduct mining operations of all kinds; to purchase, take, hold, sell, convey, lease, explore, develop, improve or otherwise deal in mining, land, town site, building, power, water and other properties of all forms; to mine minerals, ores and metals of all kinds; to smelt, reduce and otherwise treat minerals, ores and metals of all kinds; to sell the product of all the foregoing operations; to undertake and carry on any business and operations incidental to such dealings, mining and treatment.
>
> To apply for, purchase, or otherwise acquire and to hold, own, use, operate and to sell, assign or to otherwise dispose of, to grant licenses in respect to or otherwise turn to account letters patent and any and all inventions, improvements and processes used in connection with or secured under letters patent of the United States or elsewhere, or otherwise.
>
> To build and construct houses, structures, engines, cars, machinery and other equipment, and mining and metallurgical facilities and plants, including plants for the handling, concentrating, smelting, reduction and treatment of minerals, ores and metals of all kinds, and to operate the same.
>
> To conduct manufacturing operations of all kinds; to manufacture, purchase or otherwise acquire, hold, own, mortgage,

pledge, sell, assign, transfer or otherwise dispose of, invest, trade and deal in goods, wares and merchandise and property of all classes and descriptions; to transact a general mercantile business.

To act as the agent of others in disposing of their minerals, ores and metals of all kinds or other substances, and to make contracts with others with reference to handling, smelting, treating and disposing of their minerals, ores and metals of all kinds and other substances.

The corporation may purchase, acquire, hold and dispose of the stocks, bonds and other evidences of indebtedness of any corporation, domestic or foreign, and issue in exchange therefor its stock, bonds or other obligations.

"The corporation may do everything necessary, suitable and proper for the accomplishment of any of the purposes or the attainment of any of the objects or the furtherance of any of the powers hereinabove set forth, either alone or in association with other corporations, firms or individuals, and do every other act or thing incidental or appurtenant to or growing out of or connected with the aforesaid business or powers, or any part thereof."

That the aforesaid alteration has been duly authorized by a vote of a majority of the trustees, and also by a vote of stockholders representing at least three-fifths of the capital stock of said corporation issued and outstanding, at a meeting of the stockholders called for that purpose in the manner provided in Section 18 of the Stock Corporation Law, as more fully appears in a copy of the proceedings of such meeting verified by the vote of one of the trustees present thereat and annexed hereto and filed with this amended certificate.

IN WITNESS WHEREOF we have made and executed this certificate in duplicate and have hereunto set our hands this 19th day of February, 1917.

CLINTON H. CRANE,
President.
LEONIDAS H. BESSON,
Secretary.

(Corporate Seal)

State of New York, }
County of New York, } ss.:

On this 19th day of February, 1917, before me personally came Clinton H. Crane and Leonidas H. Besson, to me personally known to be the persons described in and who made and signed the foregoing cer-

tificate and severally duly acknowledged that they had made, signed and executed the same for the uses and purposes therein set forth.

(Seal)

HAROLD VAN RIPER,
Notary Public, New York County.
New York County No. 12; Register No. 8023.
My Commission expires March 30, 1918.

Copy of Proceedings of Meeting to be Attached to the Foregoing Certificate.

Minutes of a meeting of the stockholders of Saint Joseph Lead Company held at the office of the company, No. 61 Broadway, Borough of Manhattan, City of New York, on the 19th day of February, 1917, at eleven o'clock in the forenoon, for the purpose of considering a proposition to alter its certificate of incorporation so as to include therein other purposes, powers or provisions.

The meeting having been called to order, stockholders appeared in person or proxy representing 1,087,858 shares of stock, being at least three-fifths of the capital stock of the corporation, issued and outstanding.

The stockholders organized by electing from their number Clinton H. Crane as Chairman of the meeting and Leonidas H. Besson as Secretary thereof.

The Secretary read the notice of the meeting, which notice stated the time, place and object thereof, and the proposed extension of purposes, powers and provisions of the corporation. A copy of said notice is hereto annexed, marked "A."

He also read the proof that such notice had been published once a week for at least two successive weeks in the New York Times, a newspaper published in the City and County of New York, the County where the principal office of the corporation is located, and that a copy of such notice was duly mailed to each stockholder at his last known post office address at least two weeks before the meeting.

Upon motion of E. C. Smith, duly seconded, the following resolution was offered for adoption:

> "Resolved that the certificate of incorporation of this Company be altered so as to include other purposes, powers and provisions in addition to those now set forth therein, by amending Section Second of said certificate so that the same shall read as follows:

"SECOND. The objects for which this corporation is formed are to do any of the things herein set forth to the same extent as natural persons might, and in any part of the world, to wit: To conduct mining operations of all kinds; to purchase, take, hold, sell, convey, lease, explore, develop, improve or otherwise deal in mining, land, town site, building, power, water and other properties of all forms; to mine minerals, ores and metals of all kinds; to smelt, reduce and otherwise treat minerals, ores and metals of all kinds; to sell the product of all the foregoing operations; to undertake and carry on any business and operations incidental to such dealings, mining and treatment.

To apply for, purchase, or otherwise acquire, and to hold, own, use, operate and to sell, assign or to otherwise dispose of, to grant licenses in respect to or otherwise turn to account letters patent and any and all inventions, improvements and processes used in connection with or secured under letters patent of the United States or elsewhere, or otherwise.

To build and construct houses, structures, engines, cars, machinery and other equipment, and mining and metallurgical facilities and plants, including plants for the handling, concentrating, smelting, reduction and treatment of minerals, ores and metals of all kinds, and to operate the same.

To conduct manufacturing operations of all kinds; to manufacture, purchase or otherwise acquire, hold, own, mortgage, pledge, sell, assign, transfer or otherwise dispose of, invest, trade and deal in goods, wares and merchandise and property of all classes and descriptions; to transact a general mercantile business.

To act as the agent of others in disposing of their minerals, ores and metals of all kinds or other substances, and to make contracts with others with reference to handling, smelting, treating and disposing of their minerals, ores and metals of all kinds and other substances.

The corporation may purchase, acquire, hold and dispose of the stocks, bonds and other evidences of indebtedness of any corporation, domestic or foreign, and issue in exchange therefor its stock, bonds or other obligations.

The corporation may do everything necessary, suitable and proper for the accomplishment of any of the purposes or the attainment of any of the objects or the furtherance of any of the powers hereinabove set forth, either alone or in association with other corporations, firms or individuals, and do every other act or thing incidental or appurtenant to or growing out of or connected with the aforesaid business or powers, or any part thereof."

Upon a canvass of the votes cast upon said resolution, it was found that stockholders owning 1,080,373 shares of stock of the corporation, being more than three-fifths of the stock thereof issued and outstanding, voted in favor of said resolution, and that stockholders owning 7,485 shares voted against its adoption. Such resolution was thereupon declared duly adopted.

CLINTON H. CRANE,
Chairman.
LEONIDAS H. BESSON,
Secretary.

(Corporate Seal)

State of New York, }
County of New York, } ss.:

CLINTON H. CRANE, being duly sworn, deposes and says that he is one of the trustees of Saint Joseph Lead Company and was present at a meeting of the stockholders of said Company held at 61 Broadway, Borough of Manhattan, New York City, on the 19th day of February, 1917, at eleven o'clock in the forenoon, and that the foregoing is a true copy of the proceedings of said meeting.

CLINTON H. CRANE.

Sworn to before me this 19th }
day of February, 1917. }

HAROLD VAN RIPER,
(Seal) Notary Public, New York County.
N. Y. County No. 12; Register No. 8023.
My Commission expires March 30, 1918.

A

ST. JOSEPH LEAD COMPANY
61 Broadway, New York

NOTICE OF ANNUAL MEETING

Notice is hereby given that the annual meeting of the stockholders of St. Joseph Lead Company will be held at the office of the company, No. 61 Broadway, Borough of Manhattan, City of New York, on Monday, February 19, 1917, at eleven o'clock in the forenoon, for the purpose

of electing trustees to serve until the next annual meeting, of electing two inspectors of election to serve at the next election of trustees of the company, of considering and approving the annual report and the acts of the directors and officers of the company as therein described and as reported at said meeting, and of considering and transacting such other business as may properly come before said meeting, and that in addition to the foregoing business said meeting is called as a meeting for the purpose of acting upon the following propositions:

1. To reduce the number of trustees of the company from thirteen, the present number, to eleven.

2. To alter the Certificate of Incorporation of said company so as to include other purposes, powers, and provisions, in addition to those now set forth in the Certificate of Incorporation of said company, by amending Section Second of said certificate so that the same shall read as follows:

"Second. The objects for which this corporation is formed are to do any of the things herein set forth to the same extent as natural persons might, and in any part of the world, to-wit: To conduct mining operations of all kinds, to purchase, take, hold, sell, convey, lease, explore, develop, improve or otherwise deal in mining, land, town site, building, power, water and other properties of all forms; to mine minerals, ores and metals of all kinds; to smelt, reduce and otherwise treat minerals, ores and metals of all kinds; to sell the product of all the foregoing operations; to undertake and carry on any business and operations incidental to such dealings, mining and treatment.

To apply for, purchase, or otherwise acquire and to hold, own, use, operate and to sell, assign or to otherwise dispose of, to grant licenses in respect to or otherwise turn to account letters patent and any and all inventions, improvements and processes used in connection with or secured under letters patent of the United States or elsewhere, or otherwise.

To build and construct houses, structures, engines, cars, machinery and other equipment, and mining and metallurgical facilities and plants, including plants for the handling, concentrating, smelting, reduction and treatment of minerals, ores and metals of all kinds, and to operate the same.

To conduct manufacturing operations of all kinds; to manufacture, purchase or otherwise acquire, hold, own, mortgage, pledge, sell, assign, transfer or otherwise dispose of, invest, trade and deal in goods, wares and merchandise and property of all

classes and descriptions; to transact a general mercantile business.

To act as the agent of others in disposing of their minerals, ores and metals of all kinds or other substances, and to make contracts with others with reference to handling, smelting, treating and disposing of their minerals, ores, metals of all kinds and other substances.

The corporation may purchase, acquire, hold and dispose of the stocks, bonds and other evidences of indebtedness of any corporation, domestic or foreign, and issue in exchange therefor its stock, bonds or other obligations.

The corporation may do everything necessary, suitable and proper for the accomplishment of any of the purposes or the attainment of any of the objects or the furtherance of any of the powers hereinabove set forth, either alone or in association with other corporations, firms or individuals, and do every other act or thing incidental or appurtenant to or growing out of or connected with the aforesaid business or powers, or any part thereof."

For the purpose of this meeting the transfer books of the company will be closed from February 10, 1917, to February 19, 1917, both inclusive.

Dated, New York, February 3rd, 1917.

CLINTON H. CRANE,
President.

LEONIDAS H. BESSON,
Secretary.

(Endorsed)

Certificate of Extension of Purposes,
Powers and Provisions

of

St. Joseph Lead Company.

STATE OF NEW YORK
OFFICE OF SECRETARY OF STATE

Filed and Recorded Feb. 20, 1917
FRANCIS M. HUGO, Secretary of State.

MS
ME.

2266

State of New York
DEPARTMENT OF STATE } ss.:

I CERTIFY That I have compared the preceding copy with the original Certificate of Amendment of Certificate of Incorporation of

Saint Joseph Lead Company,

filed in this department on the 20th day of February, 1917, and that such copy is a correct transcript therefrom and of the whole of such original.

Witness my hand and the official seal of the Department of State at the City of Albany, this twenty-ninth day of May, one thousand nine hundred and thirty-one.

Frank S. Sharp
Deputy Secretary of State.

Form 83. 1-14-31-5000 (2-4695)

F 2523

(ENDORSED)

CERTIFICATE OF INCREASE OF CAPITAL STOCK AND INCREASE OF NUMBER OF SHARES OF CAPITAL STOCK OF ST. JOSEPH LEAD COMPANY, PURSUANT TO SECTION THIRTY-SIX OF THE STOCK CORPORATION LAW.

STATE OF NEW YORK
DEPARTMENT OF STATE

FILED Apr. 15 1930
TAX $ 25.00
FILING FEE $ 2.0

EDWARD J. FLYNN
Secretary of State
By H. J. Fischer
Cashier

JUL 24 1931

2.7 Iron Mountain Company

POTENTIALLY RESPONSIBLE PARTY PACKET

2.7 IRON MOUNTAIN COMPANY

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2.7.1 PRP PROFILE SHEET:

PRP Name:	Polyone Corporation Successor to MA Hanna Successor to Iron Mountain Company
Mailing Address:	33584 Walker Road, Avon Lake, OH 44012
Telephone:	(440) 930-1000
Fax:	(440) 930-3064
Website:	http://www.polyone.com
Business Type:	Corporation
Corporation Type:	For Profit
State/Date of Incorporation:	Ohio / August 31, 2000
Employs:	3,900
Line of Business:	Polymer materials
Status:	Active
Other Contact:	Unknown
Chief Executive:	Stephen D. Newlin (Chairman, President and CEO)
Registered Agent:	CT Corporation 1300 East Ninth Street, Suite 1010 Cleveland, OH 44114
Financial Statement Date:	December 31, 2009
Total Assets Total Liabilities	$1,671,900,000.00 $1,155,900,000.00
Viability:	Viable
References:	Ohio Secretary of State SEC Filings
Subsidiaries / Other Businesses:	SunBelt Chor-Alkali Partnership BayOne Urethane Systems, L.L.C.
Reason for Inclusion	Iron Mountain Company is considered a PRP pursuant to CERCLA Section 107(a)(2) as it was a former owner and operator on the Iron Mountain Property. Several associated companies; all are connected to M.A. Hanna Company through corporate succession, but not all were identified on Dynamacs Transactional Database. In 1927, M.A. Hanna acquired a majority of the Iron Mountain Company's assets. Hanna operated the Missouri Ore Company and later operated as Ozark Ore Company. In 1962, Ozark Ore merged into Hanna Mining Company. Hanna Mining Company changed its name on May 17, 1985 and began operating as the M.A. Hanna Company. On August 31, 2000 the M.A. Hanna Company consolidated with Geon and began operating under the name Polyone Corporation.

2.7.2 PRP NARRATIVE:

PRP Name: Iron Mountain Company
Successor: M.A. Hanna Company, Polyone Corporation

2.7.2.1 Site Ownership/Operations:

2.7.2.1.1 Site:	***Iron Mountain Mine, "B" Shaft***
Locations:	Township 35N 4E Section 31, SWSW SESENW
Type:	Underground
Commodity:	Iron-Hematite and Iron-Magnetite
Owner:	MA Hanna Co., National Steel Corporation
Operator:	Iron Mountain Mining and Smelting Company
Length of Time Owned:	Unknown
Length of Time Operated:	Unknown

Owner Deed Transactions for Iron Mountain Mine, "B" Shaft:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	5/10/1869	L	697	35N	4E	31
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	5/1/1926	148	68	35N	4E	31
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/1/1926	148	388	35N	4E	31

Table 1: Dynamac deed transactions Sec 31, Twp 35N, Range 4E

A review of the IMOP indicates that MA Hanna Co. and National Steel Corporation were owners of the property at Township 35N, Range 4E, Section 31 SWSWSESENW. The information regarding property transactions and corporate articles surrounding activity at the property called "Iron Mountain" is limited. A brief historical narrative is included below to augment existing title and corporate information.

Operational History

Historical records indicate that in 1943 hematite was produced by M.A. Hanna Co. Plans to further develop the Iron Mountain mine were moving forward. The plans named Ozark Ore Co., a subsidiary of M.A. Hanna, as operator of the mine. (7)

Operator Deed Transaction for Iron Mountain Mine, "B" Shaft:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
Pleasant Valley Development Company	Iron Mountain Mining and Smelting Co.	Lease Option	4/12/1917	1	315	35N	4E	31
Pleasant Valley Development Company	Iron Mountain Mining and Smelting Co.	Lease and Option	9/06/1918	1	315	35N	4E	31
Pleasant Valley Development Company	Iron Mountain Mining and Smelting Co.	Supp. Agr.	9/07/1918	1	320	35N	4E	31
Pleasant Valley Development Company	Iron Mountain Mining and Smelting Co.	Supp. Agr.	9/07/1918	1	320	35N	4E	31
Pleasant Valley Development Company	Iron Mountain Mining and Smelting Co.	Notice	4/10/1919	1	324	35N	4E	31

Table 2: Dynamac deed transactions Section 31, Twp. 35N, Range 4E.

According to the 1922 *Mines Register*, Iron Mountain M. and Sm. Co. operated the Iron Mountain mine in St. Francois County, Missouri (13). The Dynamac database lists Iron Mountain Mining and Smelting Company on the above-named site beginning on April 12, 1917, with a lease and option for mining rights. The lease grantor was Pleasant Valley Development Company. On April 10, 1919, a notice to cancel lease was recorded in book 1, page 324.

2.7.2.1.2 Site: ***Name Unknown.***

Locations: Township 35N 4E Section 31, SWSW
Type: Surface
Commodity: Lead, Iron
Operator: Ozark Ore Company
Length of Time Owned: Unknown
Length of Time Operated: Unknown

Deed Transactions:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	5/10/1869	L	697	35N	4E	31
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	5/1/1926	148	68	35N	4E	31
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/1/1926	148	388	35N	4E	31

Table 3: Dynamac deed transactions Section 31, Twp 35N, Range 43.

Operational Information

Ozark is referred to in the IMOP as operator of this property. According to the Bureau of Mines/Minerals Yearbook 1949, Ozark Ore was operating the Iron Mountain open-pit mine and was producing Hematite concentrates. (8, p. 615)

2.7.2.1.3 Site: ***Iron Mountain Mine***

Locations: Township 35N 4E Section 30 S2S2
Type: Surface
Commodity: Iron
Operator: Hanna Mining Company
Length of Time Owned: Unknown
Length of Time Operated: Unknown

Deed Transactions:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	5/10/1869	L	697	35N	4E	30
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	5/1/1926	148	68	35N	4E	30
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/1/1926	148	388	35N	4E	30

Table 4: Dynamac deed transactions Section 30, Twp. 35N, Range 4E.

2.7.2.1.4 Site: ***Greasy Mine***

Location: Township 34N, Range 5E, Section 8 NESE
Type: Surface and Underground Operations
Commodity: Iron-Hematite
Length of Time Owned: May 10, 1869 to unknown.
Length of Time Operated: Unknown

Deed Transaction:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	5/10/1869	L	697	34N	5E	8

Table 5: Dynamac deed transactions Section 8, Twp 34N, Range 5E.

2.7.2.1.5 Site: ***Miller & Sikes Quarry***

Location: Township 35N 5E, Section 32
Type: Surface Operations
Commodity: Granite
Owners: Unknown
Operators: Unknown
Length of Time Owned: May 10, 1869 to Unknown
Length of Time Operated: Unknown

Operational History:

In 1923 the Iron Mountain Company owned 16, 470 acres of land in St. Francois and Iron counties and were operating a concentrating mill and an underground mine. (13)

Deed Transactions:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	5/10/1869	L	697	35N	5E	32

Table 6: Dynamac deed transactions Section 32, Twp 35N, Range 5E.

2.7.2.1.6 Site: ***Iron Mountain Trap Rock***

Locations: Township 35N 4E Section 31C E2W2
Type: Surface
Commodity: Trachyte
Owners: Unknown
Operators: Iron Mountain Trap Rock,
Black Trap Rock Co.
Iron Mountain Material & Engineering Co.
Trap Rock Material & Engineering Co.
Fred Weber, Inc.
Length of Time Owned: Unknown
Length of Time Operated: Unknown

Deed Transactions:

Grantor	Grantee	Doc	Date	BK	PG	TWP	RNG	SEC
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	5/10/1869	L	697	35N	4E	31
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	5/1/1926	148	68	35N	4E	31
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/1/1926	148	388	35N	4E	31

Table 7: Dynamac transactions deed transactions Section 31, Twp 35N, Range 4E.

2.6.2.1.7 Associated Companies not located within the Dynamac Database

The Dynamac transactional database did not include entries for the following companies related to Iron Mountain Company:

MA Hanna; Missouri Ore; Ozark Ore; or National Steel; Hanna Mining Company; Iron Mountain Trap Rock; Black Trap Rock Co.; Iron Mountain Material & Engineering Co.; Trap Rock Material & Engineering Co.; Fred Weber, Inc.

2.7.2.2 Corporate History

Figure 1 on page 10 depicts the succession of owners and operators of the Iron Mountain property.

Historical records indicate that in the 18th Century, the Spanish government gifted land called Iron Mountain to Joseph Pratte. This transfer was affirmed by the United States government on July 4, 1836. In 1829, Pratte conveyed the property to his heirs. (2, 10)

On November 2, 1836, a one-seventh interest of the property was transferred to Jesse B. Thomas, Jr. This transaction resulted in the Supreme Court case *Levi D. Boone, Adm'r of Jesse B. Thomas, Deceased, Comp't, -v- The Missouri Iron Company*. The Supreme Court's opinion includes a narrative of Iron Mountain property transactions. The opinion states that on November 15, 1836, Jesse B. Thomas gave a title-bond to James L. Van Doren, one of Missouri Iron Company's incorporators. Missouri Iron Company was unsuccessful and dissolved. The property was then sold to C. C. Ziegler on January 6, 1842. (1, 10)

On January 24, 1843, the American Iron Mountain Company was incorporated by General Assembly (Charter A00000023) with Ziegler as one of the incorporators. Ziegler deeded the property to the company (10).

The land was idle during the latter part of the 19th Century, and, in 1905, came under the ownership of James W. Darst. Darst conveyed the property to William Smollinger in 1917, and the same year Smollinger deeded the property to Pleasant Valley Development. Pleasant Valley conveyed the land to W.J. Elledge on November 6, 1919, and this transaction resulted in a lawsuit for non-payment. On May 21, 1920, Pleasant Valley Development deeded the property to Leonard Busby. Busby organized another Iron Mountain Company, (Charter 37530) and worked the mines with little success from 1920 until 1927. (1, 2, 11)

Iron Mountain Company was incorporated in the state of Missouri on June 21, 1920 (16). Leonard Busby organized Iron Mountain Company under the laws of Missouri, and historical records indicate the company owned 16,470 acres of land in St. Francois and Iron County, purchasing the property from Conrad C. Ziegler, the founder of **American Iron Mountain Company.** Busby unsuccessfully operated Iron Mountain until 1926 (3).

Experiencing financial problems, Busby sold the property **to Iron Mountain Mining Company** in May 1926. Iron Mountain Mining Company was incorporated in the state of Delaware on April 28, 1926 (18). After a couple of unsuccessful months attempting to operate the mine, Iron Mountain Mining defaulted on payments and conveyed the property back to Busby. Iron Mountain Mining Company filed an Affidavit of Retirement on April 4, 1927 (17).

In 1927, Busby brought the property to the attention of the **MA Hanna Company** and a majority of the assets, including property, were conveyed to Hanna. Hanna financed operations of a company called, **Missouri Ore Company,** who incorporated under the laws of Delaware on March 28, 1927. (2; 5; 19)

A newspaper article in the St. Louis Globe-Democrat dated July 27, 1934, references the case of William Holley v. Iron Mountain Company. Mr. Holley was injured in 1926 while working for Iron Mountain Company and filed suit for damages. Iron Mountain Company was experiencing financial difficulties at the time the Holley suit was filed. By the time judgment was entered in Holley's favor at the Circuit Court level, the Iron Mountain Company had dissolved, and no payment was made to Holley. The *Holley* case later went before the Missouri Supreme Court, and because that decision is relevant to this history, the decision is discussed later in this document. (2, 5)

After Busby succeeded in interesting M.A. Hanna Company in the site, a contract was negotiated with Hanna. The contract between Iron Mountain and Hanna provided that (a) Hanna would organize under the laws of Delaware with 5,000 shares of capital stock; (b) Iron Mountain Company would transfer a major portion of their assets, including the mining property, to the new company and in return the new company would transfer 5,000 shares of stock to the new ore company; (c) the new company would execute a mortgage on the property; (d) Hanna would advance $50,000 for exploration and development; (e) Hanna would provide supervision and engineering to develop the property; (f)Hanna would act as sales agent; and (g) the new ore company would transfer 2,501 shares of the stock to Hanna. The new company was incorporated under the laws of Delaware on March 28, 1927, and named Missouri Ore Company. M.A. Hanna was the majority stockholder of Missouri Ore, with two officers of the Hanna Company serving as directors. No deed of conveyance involving M.A. Hanna was located. Iron Mountain was dissolved on January 1, 1933, by the Missouri Secretary of State who issued a Forfeiture of Charter on Iron Mountain. (2; 5; 2)

The *Holley v. Iron Mountain Company and Missouri Ore* case was appealed by the defendants to the Missouri Supreme Court. The Supreme Court's opinion stated that Missouri Ore Company was a "continuation of the Iron Mountain Company..." and affirmed the Circuit's Court decision in Holley's favor. (5)

During the 1930s, the Iron Mountain property lay idle until Ozark Ore Company, a subsidiary of M.A. Hanna Coal and Ore Company, resumed mining at Iron Mountain in 1944. Records obtained from the National Archives in Kansas City, Missouri included a January 10, 1944 lease of property at the Iron Mountain site in St. Francois County. Ozark Ore Company leased property to Defense Plant Corporation (DPC) to allow DPC to build a plant "for the production of open pit iron ore and iron ore concentrate ..." The lease was guaranteed by The M.A. Hanna Company and filed with the St. Francois County Recorder on October 16, 1944. After DPC dissolved, an amended lease was filed on July 1, 1945, transferring rights of all assets and liabilities to Reconstruction Finance Corporation (RFC). On March 17, 1948, the War Assets Administration announced the sale of the RFC facilities at Iron Mountain to Ozark Ore Company. (6; 24; 12)

The Hanna Mining Company, incorporated in the state of Delaware on March 25, 1927, owned all the shares of Ozark Ore Company (incorporated September 12, 1934). On December 31, 1962, Ozark Ore Company merged into Hanna Mining Company (26). The Certificate of Merger indicates that Ozark Ore, a Delaware Corporation, "ceased to exist in Missouri because of its merger into the Hanna Mining Company" (26). Hanna Mining Company incorporated under the laws of Delaware on

March 25, 1927 (14). Hanna ceased iron mining at Iron Mountain in 1966. Prior to ceasing mining operations, it processed waste rock. (3)

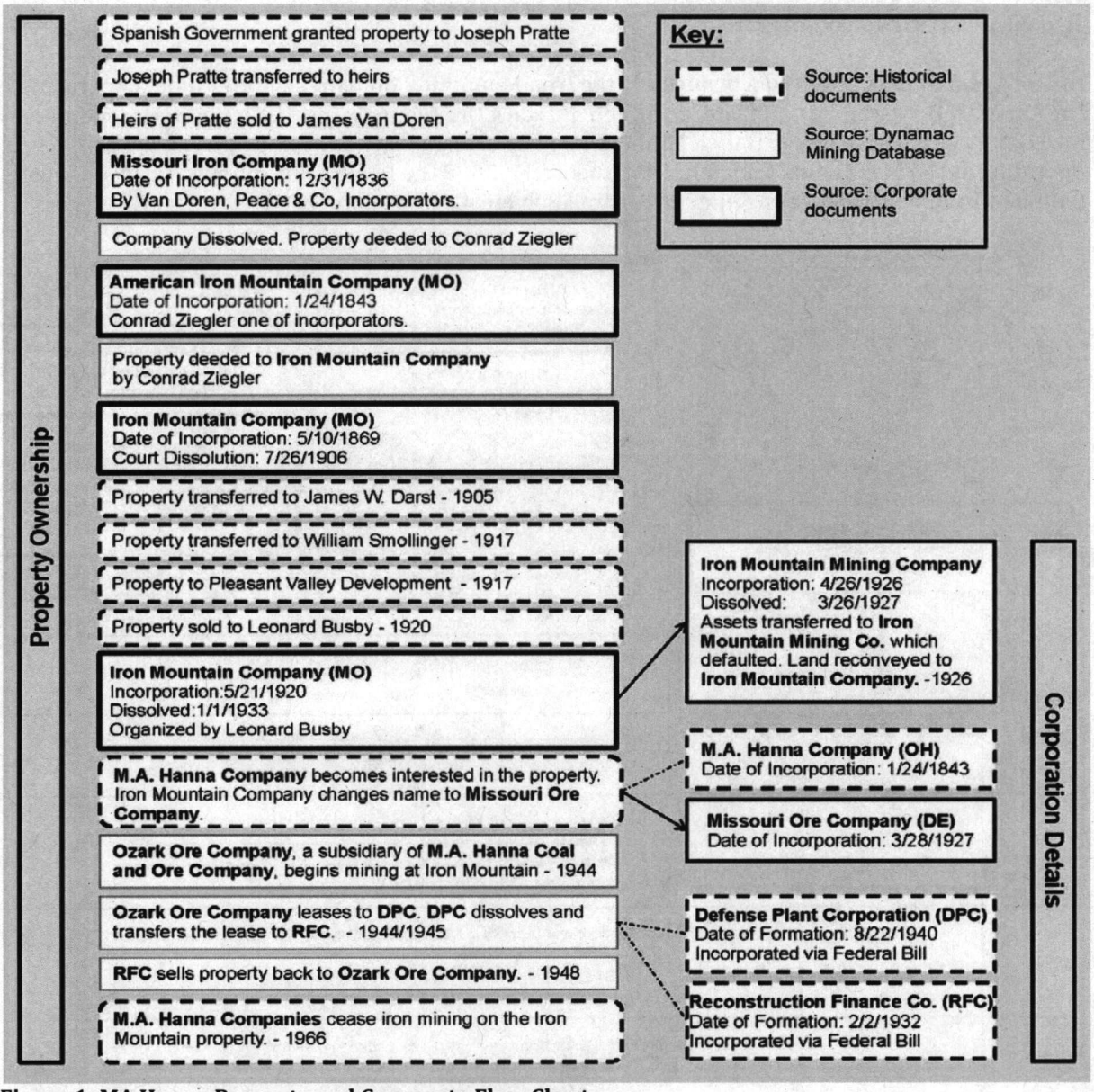

Figure 1: MA Hanna Property and Corporate Flow Chart

2.7.2.3 Reason for Inclusion

Iron Mountain Company is considered a PRP pursuant to CERCLA Section 107(a)(2) as it was a former owner and operator on the Iron Mountain Property. Several associated companies; all are connected to M.A. Hanna Company through corporate succession, but not all were identified on the Dynamac Transactional Database.

In 1927, M.A. Hanna acquired a majority of the Iron Mountain Company's assets. Hanna operated the Missouri Ore Company and later operated as Ozark Ore Company. In 1962, Ozark Ore merged into Hanna Mining Company. Hanna Mining Company changed its name on May 17, 1985 and began operating as the M.A. Hanna Company. On August 31, 2000 the M.A. Hanna Company consolidated with Geon and began operating under the name Polyone Corporation. (27)

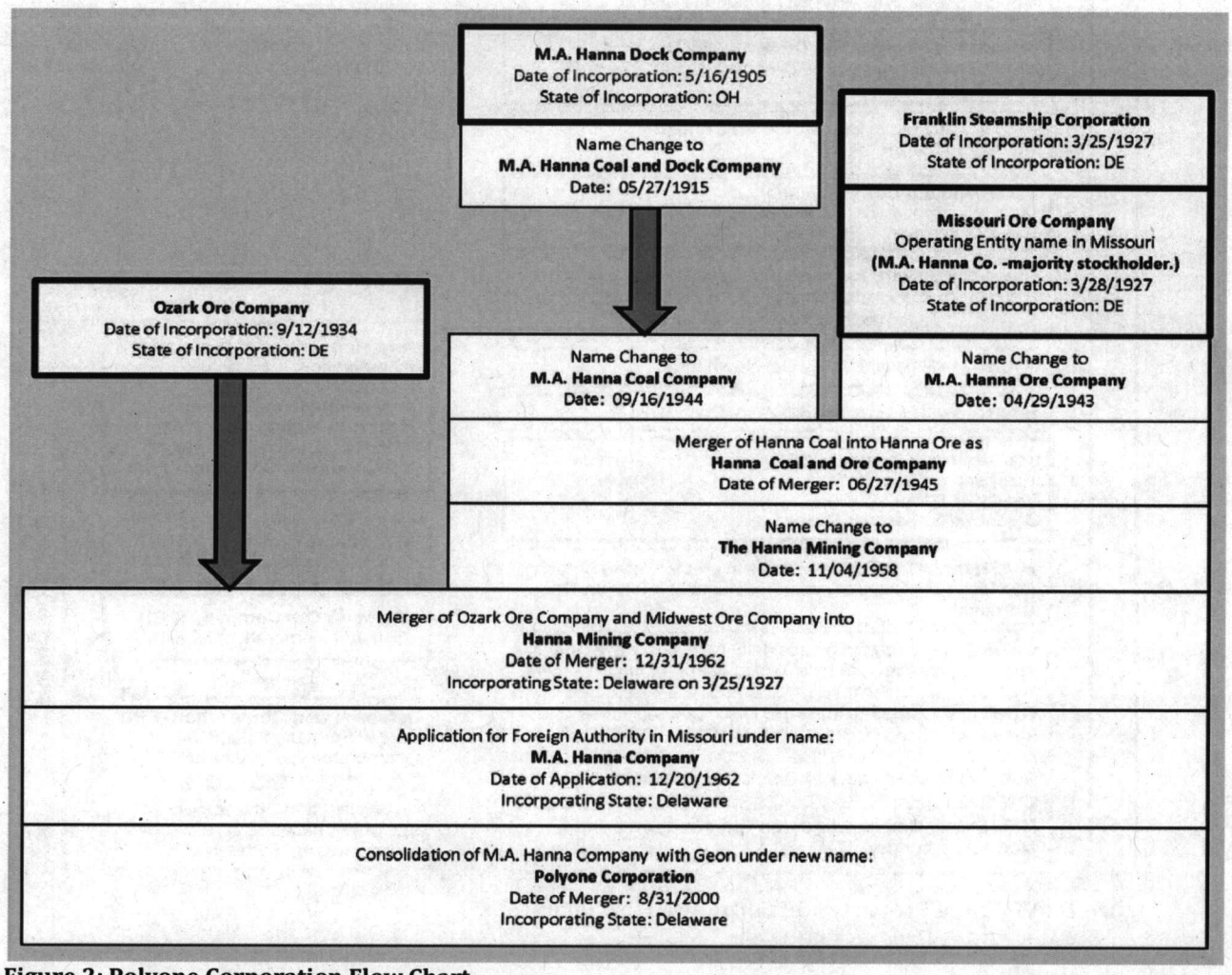

Figure 2: Polyone Corporation Flow Chart

2.7.2.4 Associated Companies:

National Steel Corporation is listed in the IMOP as a site owner and therefore is included as an associated company. No dates of ownership or operation were documented in the IMOP or the Dynamac database. National Steel was not included as a PRP in the task order. No other information regarding National Steel's presence on the site was found.

Historical records reveal that National Steel Corporation was formed on November 7, 1929 by merging Hanna Iron Ore Company, Great Lakes Steel, and Weirton Steel (23) (19) However, the Certificate of Ownership Merging Hanna Iron Ore Company into National Steel was filed with the Ohio Secretary of State on January 10, 1957 (21).

On May 31, 1939, National Steel filed an Application for License with the state of Ohio (19). The company registered as a foreign corporation in Missouri; however no registration application was documented on the Missouri Secretary of State website. National Steel filed annual reports with the state of Missouri for the years 2000 through 2005 under charter F00220615. In 2005, National Steel filed an Application to Withdraw as a Foreign Corporation in Missouri (22)

In the 1980s National Steel became a subsidiary of National Intergroup, Inc. In 1984, Nippon Kokan K.K. (NKK) purchased 50 percent of National Steel making Nippon and National Intergroup co-owners. In the 1990s National Intergroup divested its remaining interest in National Steel to pursue a business venture in the pharmaceutical industry. In 1994, National Intergroup restructured and changed its name to FoxMeyer Health Corporation. (23)

SUPPORTING DOCUMENTATION

Where stated, this report references the following sources:

- Dynamac Corporation. *Mining Company Property Transactions Volume 1*. 6 Nov. 1997*.
- Missouri Department of Natural Resources (MoDNR), Division of Geology and Land Survey (DGLS), and Geological Survey Program (GSP). *Inventory of Mines, Occurrences, and Prospects in Missouri*. 10 Jan. 2008. Vector digital data. ftp://msdis.missouri.edu/pub/state/st_imop.zip.Web.**

*Copies of the applicable pages for the named PRP are included in the supporting documentation. A full copy of the database can be found in EPA's SDMS under file number 40111273, 40111274.
**Note: A copy of the IMOP Database entries for St. Francois County is included as an abbreviated copy of the original download.

DYNAMAC TRANSACTIONAL REPORT TITLE LISTINGS

(Pages 2 – 14 of Supporting Documentation Attachment)

Iron Mountain Company
Iron Mountain Mining and Smelting Company
American Iron Mountain Company
MA Hanna Company

HISTORICAL REFERENCES

(Pages 15 – 275 of Supporting Documentation Attachment)

1. Boone v. Missouri Iron Mountain Company, Et Al. Book 15 U.S. Supreme Court Reports 171-173. Supreme Court of the United States. 1 Mar. 1855. *Books.google.com*. The Lawyers Co-operative Publishing Company, 1884. Web. 7 Sept. 2010. <http://books.google.com/books >.
2. Edgar, Judge William R. "History of Iron Mountain."
3. Fenix, F. G. Mines, Mining and Mine Inspection. 36th ed. 1923.
4. "The Geologic Column of Missouri." *Missouri Department of Natural Resources.* 2008. Print. (012.002.008)
5. Holley v. Iron Mountain Company. 332 Supreme Court of Missouri. 21 June 1933. *LexisNexis Academic*. Web. 2 Sept. 2010.
6. Ore Co. Lease of Site. 10 Jan 1944. National Archives Assets. 26 Aug 1944
7. Melcher, Norwood B.; Langey, Edward J. Pehrson, E.W./Minerals yearbook 1943. P. 575. Web
8. Melcher, Norwood B.; Forbes, Jachin M. Bureau of Mines/Minerals yearbook 1949. pp. 615. Web.
9. Mines of the Lead Belt. "Man Wins Large Damage Award." 27 July 1934. Compiled by staff and volunteers of Farmington Public Library. Print.

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11. State Ex Rel. Maxwell Investment Co. v. Huck, Judge. 240 Southwestern Reporter 236. Supreme Court of Missouri in Banc. 6 Apr. 1922. *Google Books.* West Publishing Co., 1922. Web. 7 Sept. 2010.
12. War Assets Administration. For Immediate Release. 17 Mar 1948. National Archives. 26 Aug 2010.
13. Weed, E.M., Walter Harvey. The Mines Handbook. Vol. XV. Tuckahoe: The Mines Handbook Co., 1922.

CORPORATE REFERENCES:

(Pages 276 – 502 of Supporting Documentation Attachment)

14. Hanna Mining Company. 20 Dec 1962. Application of Foreign Corporation for a Certificate of Authority to Transact Business in Missouri. Missouri Secretary of State.
15. The Hanna Mining Company. 17 May 1985. Application for an Amended Certificate of Authority for a Foreign Corporation. Missouri Secretary of State.
16. Iron Mountain Company. 19 Jun 1920. Articles of Association. Missouri Secretary of State.
17. Iron Mountain Mining Company. Affidavit of Retirement of Iron Mountain Mining. 31 Aug 1926. Missouri Secretary of State. Web. 10 Sept 2010.
18. Iron Mountain Mining Company. Certificate of Incorporation of Iron Mountain Mining Company. 26 Apr 1926. Missouri Secretary of State. Web 10 Sept 2010.
19. Missouri Ore Company. Creation Filing. 26 Mar 1927. Missouri Secretary of State. Web. 17 Sept 2010.
20. National Steel Corporation. Certificate of Incorporation of National Steel Corporation. 7 Nov 1929. Ohio Secretary of State. Print.
21. National Steel Corporation. Certificate of Ownership Merging Hanna Iron Ore Company into National Steel Corporation. 10 Jan. 1957. Ohio Secretary of State.
22. National Steel Corporation. Application for Certificate of Withdrawal of Foreign Corporation. 8 Feb. 2005. Missouri Secretary of State. Print.
23. National Steel Corporation. SEC 10K. 31 Dec. 1995. Securities and Exchange Commission. Print.
24. Ozark Ore Co. Agreement Amending Agreement of Lease. 27 Aug 1944. National Archives War Assets. 26 Aug 1944.
25. Ozark Ore Company. Certificate of Incorporation; Appointment of Foreign Agent. Missouri Secretary of State. 12 Sept 1934. Missouri Secretary of State. Web. 17 Sept. 2010.
26. Ozark Ore Company. Letter Notice of Merger. Missouri Secretary of State. 31 Dec 1962. Web. 17 Sept. 2010.
27. Polyone Corporation. 29 Aug 2000. Form 8-K. Securities and Exchange Commission.

SUPPORTING DOCUMENTATION

IRON MOUNTAIN COMPANY

CERCLA Enforcement Support Services, Region VII
Contract No. 68-W4-0039

Title Search Activity
Work Assignment No. C07007

Sorted By Grantee

Grantee	Grantor	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
Ingalls, W.R.	Big River Lead Company	Agreement	02/23/1907	81	377	SE	8	36	4	Except surface rights of NE 1/4 of SE 1/4. Containing 160 acres.
Ingalls, W.R.	Big River Lead Company	Agreement	02/23/1907	81	377	SW	16	36	4	SE 1/4 and N 1/2.
Ingalls, W.R.	Big River Lead Company	Agreement	02/23/1907	81	377	SW	18	36	4	Aggregating 480 acres.
Inman, John W.	Doe Run Lead Company	Special Warranty Deed	07/23/1925	145	245	~	~	~	~	Lot 11, Block 12 in town of Flat River. Surface rights.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	1	34	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	3	34	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	4	34	4	Containing 640 acres.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	5	34	4	Containing 640 acres.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	6	34	4	Containing 640 acres.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	7	34	4	Containing 640 acres.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	8	34	4	Containing 640 acres.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	9	34	4	Containing 640 acres.
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	10	34	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	11	34	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	16	34	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	3	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	4	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	6	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	18	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	19	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	20	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	21	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	28	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	29	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	30	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	31	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	32	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	33	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	35	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	36	35	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	1	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	2	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	4	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	9	36	4	~

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CERCLA Enforcement Support Services, Region VII
Contract No. 68-W4-0039

Title Search Activity
Work Assignment No. C07007

Sorted By Grantee

Grantee	Grantor	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	10	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	11	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	12	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	13	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	14	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	26	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	27	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	34	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	35	36	4	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	4	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	5	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	6	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	7	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	8	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	9	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	10	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	17	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	18	34	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	19	35	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	30	35	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	31	35	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	32	35	5	~
Iron Mountain Company	American Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	33	35	5	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	3	34	4	The W part of W 1/2 embraced in the Joseph Pratte Survey 3037.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	4	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	5	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	6	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	6	34	4	A parcel on top of Reservoir Mountain. Mining rights.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	7	34	4	Except a fraction off the S part lying outside of Joseph Pratte Survey 3037.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	7	34	4	Containing 119.03 acres. Along the S line of the Joseph Pratte Survey and W line of the St. Louis Iron Mountain and Southern Railway right-of-way.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	8	34	4	Except a fraction off the S part lying outside of Joseph Pratte Survey 3037.

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Contract No. 68-W4-0039

Title Search Activity
Work Assignment No. C07007

Sorted By Grantee

Grantee	Grantor	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	9	34	4	Except a fraction off the S part lying outside the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	10	34	4	Part of W 1/2 embraced in the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	19	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	20	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	21	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	28	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	29	35	4	Except part of the NE 1/4 lying E of Bismarck Road, and part of the SE 1/4 north of Farmington Road.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	29	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	30	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	30	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	31	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	32	35	4	Part of S 1/2 lying E of the E line of the Iron Mountain Lake Road leading to the dam at the N end of Iron Mountain Lake.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	32	35	4	Strip 200 feet wide, the center line of which is the N face of the dam at the N end of Iron Mountain Lake extending 100 feet beyond each end of dam. Mining rights.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	32	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	~	33	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	NE	31	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	NE	32	35	4	Part lying W of the E bank of Indian Creek.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	NW	7	34	4	Aggregating 8.95 acres.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	NW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	NW	32	35	4	Except part of NW 1/4 lying E of the E bank of Indian Creek.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	SW	6	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	SW	28	35	4	Part, if any, lying between the S line of the Farmington Road and the E bank of Indian Creek. Aggregating 1.450 acres.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	10/01/1926	148	388	SW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Mining and Smelting Company	Pleasant Valley Development Company	Notice	04/10/1919	1	324	SW	31	35	4	Beginning at an iron rail at the NW corner of the Reservoir. Containing 277.43 acres. Notice to cancel lease and option contract.
Iron Mountain Mining and Smelting Company	Pleasant Valley Development Company	Lease and Option	04/12/1917	1	315	~	~	~	~	Containing 277.43 acres. Mining rights. Grantor consented to lease assigned by W.R. West to Iron Mountain Mining and Smelting Company

Mining Company Property Transactions
St. Francois County, MO

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CERCLA Enforcement Support Services, Region VII
Contract No. 68-W4-0039

Title Search Activity
Work Assignment No. C07007

Sorted By Grantee

Grantee	Grantor	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
Iron Mountain Mining and Smelting Company	Pleasant Valley Development Company	Lease and Option	09/06/1918	1	315	SW	31	35	4	Beginning at iron rail at NW corner of the Reservoir well. Containing 277.43 acres. Specifying lease by W.R. West to the Iron Mountain Mining and Smelting Company on 4/26/1917.
Iron Mountain Mining and Smelting Company	Pleasant Valley Development Company	Supplemental Agreement	09/07/1918	1	320	-	31	35	4	Part of SW 1/4. Beginning at iron rail at NW corner of the Reservoir well. Containing 277.43 acres. Adding cancellation rights to Grantee in lease between the parties on 9/7/1918.
Iron Mountain Mining and Smelting Company	Pleasant Valley Development Company	Supplemental Agreement	09/07/1918	1	320	-	-	-	-	Adding right to cancel lease provision. Containing 277.43 acres.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	3	34	4	Part of W part of the W 1/2 as may be embraced in the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	4	34	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	5	34	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	6	34	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	6	34	4	A parcel on top of Reservoir Mountain.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	7	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	8	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	9	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	10	34	4	Part of W part of the W 1/2 as may be embraced in the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	19	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	20	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	21	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	28	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	29	35	4	Except part of NE 1/4 lying E of the Bismark Road, and part of SE 1/4 N of the Farmington Road.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	29	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	30	35	4	Part of lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	30	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	31	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	32	35	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	32	35	4	Strip 200 feet wide extending 100 feet beyond each end of the Iron Mountain Lake Dam.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	32	35	4	Part of, lying E of the E line of the Iron Mountain Lake Road.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	-	33	35	4	-

Mining Company Property Transactions
St. Francois County, MO

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CERCLA Enforcement Support Services, Region VII
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Title Search Activity
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Grantee	Grantor	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	~	~	~	~	Beginning at a granite block 17.61 chains N of a railroad set on the S boundary of the Joseph Pratte Survey 3037. Containing 119.03 acres.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	NE	31	35	4	Subject to an existing private road or right-of-way known as Iron Mountain Lake Road.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	NE	32	35	4	Part of, lying W of the E bank of Indian Creek.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	NW	7	34	4	Aggregating 8.95 acres.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	NW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	NW	32	35	4	–
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	SW	6	34	4	–
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	SW	28	35	4	Part, if any, lying between the S line of the Farmington Road and the E bank of Indian Creek. Aggregating 1.450 acres.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	SW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	05/01/1926	148	68	SW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	–	17	36	4	N 1/2. Containing 320 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	~	18	36	4	Containing 640 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	NW	7	36	4	The S 1/2 and the S 1/2. Containing 400 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	NW	16	38	4	NW 1/4. Containing 520 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	NW	–	36	4	N 1/2.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	NW.	–	36	4	S 1/2.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	SE	8	35	4	Containing 160 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	SE	25	35	4	E 1/2 and SW 1/4. Containing 120 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	SW	19	36	4	SW 1/4. Containing 120 acres.
Irondale Farming and Mining Company	Irondale Cattle Company	Commissioner's Deed	05/06/1893	45	458	SW	~	36	4	E 1/2 and N 1/2.
Irondale Farming and Mining Company	Irondale Cattle Company	Quit-Claim Deed	07/05/1892	45	457	NW	7	36	4	S 1/2. Containing 80 acres.
Irondale Lead Company	Cole, George J. and Jessie G.	Quit-Claim Deed	02/08/1901	59	630	~	~	~	~	290 acres from John Hunt and Wife. See Book 65, Page 28.
Irondale Lead Company	Cole, George J. and Jessie G.	Quit-Claim Deed	02/08/1901	59	630	~	~	~	~	120 acres from James Marler and wife. See Book 65, Page 24.
Irondale Lead Company	Cole, George J. and Jessie G.	Quit-Claim Deed	02/08/1901	59	630	~	~	~	~	120 acres from John H. Crump and wife. See Book 65, Page 27.

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Contract No. 68-W4-0038

Title Search Activity
Work Assignment No. C07007

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Hunt, Theodore, et al.	St. Joseph Lead Company	Warranty Deed	11/10/1899	55	483	SE	33	37	4	Part of NW 1/4. Containing 205 acres.
Hunt, Theodore, et al.	St. Joseph Lead Company	Warranty Deed	11/10/1899	55	483	SW	34	37	4	W 1/2.
Hunt, Theodore, et al.	St. Joseph Lead Company	Warranty Deed	11/10/1899	55	483	SW	34	37	4	SE 1/4. Containing 200 acres.
Hurry, Luther E. and Addie	Missouri Exploration and Land Company	Quit-Claim Deed	12/11/1899	57	105	SE	22	36	4	S 1/2. Containing 120 acres.
Hurry, Luther E. and Addie	Missouri Exploration and Land Company	Quit-Claim Deed	12/11/1899	57	105	SE	22	36	4	NE 1/4.
Hurry, Luther E. and wife	Flat River Mining Company	Warranty Deed	11/16/1903	68	370	NW	14	36	5	Part of NE 1/4.
Hurry, Luther E. and wife	Flat River Mining Company	Warranty Deed	11/16/1903	68	370	NW	14	36	5	NW 1/4.
Hurry, Luther E. and wife	Flat River Mining Company	Warranty Deed	11/16/1903	68	370	SW	11	36	5	W 1/2.
Husfield, Lizzie and husband	St. Joseph Lead Company	Warranty Deed	04/03/1905	74	340	~	~	~	~	Underground and mining rights to Lot 4, Block 2 of Fife's Subdivision of original Lots 29 and 30 of Bogytown.
Hutchings, Mary E., et al.	St. Joseph Lead Company	Option	03/23/1905	65	191	~	4	37	5	W part of Section 4. Containing 25.50 acres.
Hutchings, Mary E., et al.	St. Joseph Lead Company	Option	03/23/1905	65	191	~	~	37	5	52.50 acres. Part of Mosteller Survey.
Hutchings, Mary E., et al.	St. Joseph Lead Company	Option	03/23/1905	65	191	SE	5	37	5	Containing 20.64 acres.
Hutchins, William Forest, et al.	St. Joseph Lead Company	Warranty Deed	11/14/1899	55	502	SE	33	37	4	SE 1/4. Containing 40 acres.
Inmer, Estate of Ford	Lexidington Lead Company	Affidavit	07/31/1900	66	10	~	~	~	~	2 bonds of $500.00 each. Executed by the Lexidington Lead Company and secured by 2 trust deeds on 9/10/1894 in Book 47, Page 198 and Book 47, Page 277.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NE	10	35	4	Part of SE 1/4. Containing 150 acres.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NE	10	35	4	NE 1/4.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NW	2	35	4	SE 1/4.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NW	11	35	4	Part of NW 1/4. Containing 5 acres.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NW	11	35	4	Part of NW 1/4.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NW	11	35	4	SW 1/4.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	NW	11	35	4	NE 1/4.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	SW	2	35	4	NE 1/4.
International Oil and Mining Company	Avery, J.N.	Warranty Deed	06/04/1869	2	251	SW	2	35	4	W 1/2.
Iron Mountain Company	Kendrick, Peter Richard	Lease	03/05/1870	N	237	~	~	~	~	A lot or piece of land situated in the town of Iron Mountain. Described by metes and bounds.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	146	68	~	3	34	4	Part of W part of the W 1/2 as may be embraced in the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	146	68	~	4	34	4	~

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Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	5	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	6	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	6	34	4	A parcel on top of Reservoir Mountain.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	7	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	8	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	9	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	10	34	4	Part of W part of the W 1/2 as may be embraced in the Joseph Pratte Survey.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	19	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	20	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	21	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	28	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	29	35	4	Except part of NE 1/4 lying E of the Bismark Road, and part of SE 1/4 N of the Farmington Road.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	29	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	30	35	4	Part of lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	30	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	31	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	32	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	32	35	4	Strip 200 feet wide extending 100 feet beyond each end of the Iron Mountain Lake Dam.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	32	35	4	Part of, lying E of the E line of the Iron Mountain Lake Road.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	33	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	~	~	~	~	Beginning at a granite block 17.61 chains N of a railroad set on the S boundary of the Joseph Pratte Survey 3037. Containing 119.03 acres.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	NE	31	35	4	Subject to an existing private road or right-of-way known as Iron Mountain Lake Road.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	NE	32	35	4	Part of, lying W of the E bank of Indian Creek.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	NW	7	34	4	Aggregating 8.95 acres.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	NW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	NW	32	35	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	SW	6	34	4	~
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	SW	28	35	4	Part, if any, lying between the S line of the Farmington Road and the E bank of Indian Creek. Aggregating 1,450 acres.

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Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	SW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Company	Iron Mountain Mining Company	Warranty Deed	05/01/1926	148	68	SW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Company	German Evangelical Lutheran Church	Lease	05/08/1871	N	578	-	-	-	-	Lot for church and parsonage being 150 feet square. Legal description in metes and bounds.
Iron Mountain Company	Sigman, Jonas F.	Warranty Deed	06/10/1872	O	608	NW	1	34	4	Lots 2 and 3. Containing 135.97 acres.
Iron Mountain Company	Gruney, James	Warranty Deed	06/15/1889	M	181	SE	16	34	4	SE 1/4. Containing 40 acres.
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	3	34	4	Part of W part of W 1/2 as may be embraced in the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	4	34	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	5	34	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	6	34	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	7	34	4	Except a fraction off of the S part lying outside of the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	8	34	4	Except a fraction off of the S part lying outside of the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	9	34	4	Except a fraction off of the S part lying outside of the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	10	34	4	Part of W part of W 1/2 as may be embraced by the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	19	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	20	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	21	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	28	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	29	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	30	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	31	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	32	35	4	-
Iron Mountain Mining and Farming Company	City of Chicago; Leonard A. Busby, Trustee	Quit-Claim Deed	05/21/1920	123	135	-	33	35	4	-
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	3	34	4	Part of W part of W 1/2 of Section 3 as may be embraced in the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	4	34	4	-
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	5	34	4	-

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Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	6	34	4	-
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	7	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	8	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	9	34	4	Except a fraction off the S part lying outside of the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	10	34	4	Part of W part of W 1/2 as may be embraced in the Joseph Pratte Survey 3037.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	19	35	4	Being part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	20	35	4	Being Part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	21	35	4	Being part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	28	35	4	Being Part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	29	35	4	Being part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	30	35	4	Being Part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	31	35	4	Being Part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	32	35	4	Being Part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	33	35	4	Being Part of Joseph Pratte Survey 3037, Decision No. 158.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	-	-	-	-	Beginning at a granite block 17.61 chains N of a railroad rail set on the S boundry of the Joseph Pratte Survey 3037, Decision No. 158, at its intersection with the W line of Section 7, T34, R4. Containing 119.03 acres.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	NW	7	34	4	Aggregating 8.95 acres.
Iron Mountain Mining and Farming Company	Clemons, Earl A.	Warranty Deed	11/06/1919	123	66	SW	6	34	4	Aggregating 8.95 acres.
Iron Mountain Mining and Farming Company	Elledge, W.J.	Quit-Claim Deed	11/06/1919	119	597	-	-	-	-	Tract of land containing 16,069.05 acres and being part of Joesph Pratte Survey 3037, Decision No. 158. Described in deed on 7/9/1919, Book 119, Page 520.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	-	3	34	4	The W part of W 1/2 embraced in the Joseph Pratte Survey 3037.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	-	4	34	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	-	5	34	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	-	6	34	4	-
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	-	6	34	4	A parcel on top of Reservoir Mountain. Mining rights.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	-	7	34	4	Except a fraction off the S part lying outside of Joseph Pratte Survey 3037.

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Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	7	34	4	Containing 119.03 acres. Along the S line of the Joseph Pratte Survey and W line of the St. Louis Iron Mountain and Southern Railway right-of-way.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	8	34	4	Except a fraction off the S part lying outside of Joseph Pratte Survey 3037.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	9	34	4	Except a fraction off the S part lying outside the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	10	34	4	Part of W 1/2 embraced in the Joseph Pratte Survey.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	19	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	20	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	21	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	28	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	29	35	4	Except part of the NE 1/4 lying E of Bismarck Road, and part of the SE 1/4 north of Farmington Road.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	29	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	30	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	30	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	31	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	32	35	4	Part of S 1/2 lying E of the E line of the Iron Mountain Lake Road leading to the dam at the N end of Iron Mountain Lake.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	32	35	4	Strip 200 feet wide, the center line of which is the N face of the dam at the N end of Iron Mountain Lake extending 100 feet beyond each end of dam. Mining rights.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	32	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	~	33	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	NE	31	35	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	NE	32	35	4	Part lying W of the E bank of Indian Creek.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	NW	7	34	4	Aggregating 8.95 acres.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	NW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	NW	32	35	4	Except part of NW 1/4 lying E of the E bank of Indian Creek.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	SW	6	34	4	~
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	SW	28	35	4	Part, if any, lying between the S line of the Farmington Road and the E bank of Indian Creek. Aggregating 1,450 acres.
Iron Mountain Mining Company	Iron Mountain Company	Warranty Deed	10/01/1926	148	388	SW	31	35	4	Part lying E of the main line right-of-way of the Missouri Pacific Railroad.
Irondale Cattle Company	Irondale Farming and Mining Company	Commissioner's Deed	05/08/1893	45	458	~	17	36	4	N 1/2. Containing 320 acres.

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Adams, Olinda V., et al. (Plaintiffs)	Doe Run Lead Company, et al. (Defendants)	Notice of Lis Pendens	07/03/1905	75	404	SW	13	38	5	N 1/2.
Adams, Olinda V., et al. (Plaintiffs)	Doe Run Lead Company, et al. (Defendants)	Notice of Lis Pendens	07/03/1905	75	404	SW	13	38	5	SW 1/4. Aggregating 120 acres.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	NE	8	36	4	-
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	NW	8	36	4	N 1/2 of NW 1/4.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	NW	8	36	4	E 1/2.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	SE	5	36	4	Part of NW 1/4.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	SE	5	36	4	Part of SW 1/4.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	SW	4	36	4	SW 1/4. Same land conveyed by Grantor to John M. Desloge in deed on 12/30/1899.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	SW	5	36	4	Part of SE 1/4.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	SW	8	36	4	SW 1/4.
Adams, Richard and Matilda	Desloge Consolidated Lead Company	Quit-Claim Deed	12/13/1904	60	159	SW	8	36	4	E 1/2.
Alexander, J.C. and Carrie L., et al.	Federal Lead Company	Option Contract	01/02/1907	81	172	-	-	-	-	200 acres in U.S. Survey No. 2969.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	1	34	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	3	34	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	4	34	4	Containing 640 acres.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	5	34	4	Containing 640 acres.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	6	34	4	Containing 640 acres.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	7	34	4	Containing 640 acres.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	8	34	4	Containing 640 acres.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	9	34	4	Containing 640 acres.
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	10	34	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	11	34	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	16	34	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	3	35	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	4	35	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	6	35	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	18	35	4	-
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	-	19	35	4	-

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CERCLA Enforcement Support Services, Region VII
Contract No. 68-W4-0038

Title Search Activity
Work Assignment No. C07007

Sorted By Grantor

Grantor	Grantee	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	20	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	21	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	28	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	29	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	30	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	31	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	32	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	33	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	35	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	36	35	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	1	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	2	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	4	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	9	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	10	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	11	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	12	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	13	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	14	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	26	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	27	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	34	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	35	36	4	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	4	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	5	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	6	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	7	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	8	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	9	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	10	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	17	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	18	34	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	19	35	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	30	35	5	~

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St. Francois County, MO

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CERCLA Enforcement Support Services, Region VII
Contract No. 68-W4-0039

Title Search Activity
Work Assignment No. C07007

Sorted By Grantor

Grantor	Grantee	Document	Date	Book	Page	1/4 Sec	Section	Twnshp	Range	Comments
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	31	35	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	32	35	5	~
American Iron Mountain Company	Iron Mountain Company	Warranty Deed	05/10/1869	L	697	~	33	35	5	~
American Mineral Company	Bayley, Thomas	General Warranty Deed	12/04/1897	50	416	NW	2	36	4	W 1/2 of Lot 2. Containing 55.89 acres.
American Mineral Company	Bayley, Thomas	General Warranty Deed	12/04/1897	50	416	NW	35	37	4	S 1/2. Containing 145.70 acres.
American Mineral Company	Bayley, Thomas	General Warranty Deed	12/04/1897	50	416	SW	35	37	4	W 1/2. Containing 67.51 acres. Lying E of the W bank of the Big River.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	NE	34	37	4	SW 1/4.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	SE	34	37	4	Part of NE 1/4.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	SE	34	37	4	NW 1/4.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	SE	34	37	4	SE 1/4.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	SE	34	37	4	SW 1/4. Containing 113.15 acres.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	SW	34	37	4	NE 1/4.
American Mineral Company	Dyas, David L.	Warranty Deed	12/04/1897	52	178	SW	35	37	4	Part of W 1/2. Containing 9.24 acres.
American Smelting and Refining Company	St. Joseph Lead Company	Satisfaction of Mortgage	04/23/1925	143	217	~	~	~	~	Pertaining to mortgage by St. Joseph Lead Company to Federal Lead Company on 10/23/1923 in Book 134, Page 357. Central Union Trust Company is Trustee.
Anaconda Lead Company	Anaconda Lead Company	Articles of Association	01/05/1901	57	586	~	~	~	~	Officers: George J. Cole, Phillip S. Cole, William M. Harlan, M. Butterfield, A.J. Nixon.
Anaconda Lead Company	Anaconda Lead Company	Certificate of Incorporation	03/13/1901	62	16	~	~	~	~	~
Anaconda Lead Company	Cole, Phillip S.	Warranty Deed	05/29/1903	67	518	~	26	36	4	N 1/2. Containing 320 acres.
Angel, Ida J. and Emanuel	St. Joseph Lead Company	Deed	11/29/1899	57	77	NW	3	36	4	Lot 1.
Angel, Ida J. and Emanuel	St. Joseph Lead Company	Deed	11/29/1899	57	77	NW	12	36	4	E 1/2. Containing 80 acres.
Angel, Ida J. and Emanuel	St. Joseph Lead Company	Deed	11/29/1899	57	77	SW	3	36	4	W 1/2. Containing 150 acres.
Apex Mining Company	Apex Mining Company	Articles of Increase of Stock	01/25/1917	110	410	~	~	~	~	18 Shareholders reside in Farmington. J.S. Clay is Chairman.
Apex Mining Company	Apex Mining Company	Notice of Increase of Capital Stock	02/24/1917	110	450	~	~	~	~	Increase of capital stock from $10,000 to $20,000.
Apex Mining Company	Apex Mining Company	Articles of Agreement	11/22/1916	110	360	~	~	~	~	Incorporated in Farmington. Board of Directors: J.S. Clay, P.A. Shaw, L.H. Williams, B.J. Robinson, A.F. Eugas, Oscar L. Halle, E.J. McKinney. 19 shareholders are residents of Farmington.
Archambo, Ambrose F. and Nancy	Doe Run Lead Company	Warranty Deed	06/28/1921	123	561	NE	13	36	4	Part of E 1/2 of the NW 1/4. Containing 1.5 acres. Mining rights.
Archambo, Eli and wife	Doe Run Lead Company	Warranty Deed	03/31/1921	123	476	SW	12	36	4	SW corner of the SW 1/4. Containing 2 acres. Mining rights.
Archambo, Norman and Annie	Doe Run Lead Company	Warranty Deed	06/11/1921	123	559	NE	13	36	4	Part of E 1/2 of the NW 1/4.
Ashburn, W.C. and wife	St. Joseph Lead Company	Option Contract	03/17/1905	65	181	~	~	37	5	Part of U.S. Survey No. 2106. Containing 55.61 acres.
Ashburn, W.C. and wife	St. Joseph Lead Company	Option Contract	03/17/1905	65	181	~	~	37	5	Part of U.S. Survey No. 2106.

Mining Company Property Transactions
St. Francois County, MO

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CASES ARGUED AND DECIDED

IN THE

SUPREME COURT

OF THE

UNITED STATES

17, 18, 19, 20 HOWARD

BOOK 15.

LAWYERS' EDITION

COMPLETE WITH HEAD LINES, HEAD NOTES, STATEMENTS OF CASES, POINTS AND AUTHORITIES OF COUNSEL, FOOT NOTES AND PARALLEL REFERENCES.

BY

STEPHEN K. WILLIAMS, LLD.

THE LAWYERS CO-OPERATIVE PUBLISHING COMPANY
ROCHESTER, NEW YORK

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torial power of official action: none which the court appointing him can confer, with authority to enable him to go into a foreign jurisdiction to take possession of the debtor's property; none which can give him, upon the principle of comity, a privilege to sue in a foreign court or another jurisdiction, as the judgment creditor himself might have done, where his debtor may be amenable to the tribunal which the creditor may seek.

In those countries of Europe in which foreign judgments are regarded as a foundation for an action, whether it be allowed by treaty stipulations or by comity, it has not as yet been extended to a receiver in chancery. In the United States, where the same rule prevails between the States as to judgments and decrees, aided as it is by the first section of the 4th article of the Constitution, and by the Act of Congress of 26th May, 1790, by which full faith and credit are to be given in all of the courts of the United States, to the judicial sentences of the different States, a receiver under a creditor's bill has not as yet been an actor as such in a suit out of the state in which he was appointed. This court considered the effect of that section of the Constitution, and of the Act just mentioned in McElmoyle v. Cohen, 13 Pet. 324, 327. But apart from the absence of any such case, we think that a receiver could not be admitted to the comity extended to judgment creditors, without an entire departure from chancery proceedings, as to the manner of his appointment, the securities which are taken from him for the performance of his duties, and the direction which the court has over him in the collection of the estate of the 339*] debtor, and the application *and distribution of them. If he seeks to be recognized in another jurisdiction, it is to take the fund there out of it, without such court having any control of his subsequent action in respect to it, and without his having even official power to give security to the court, the aid of which he seeks, for his faithful conduct and official accountability. All that could be done upon such an application from a receiver, according to chancery practice, would be to transfer him from the locality of his appointment to that where he asks to be recognized, for the execution of his trust in the last, under the coercive ability of that court; and that it would be difficult to do, where it may be asked to be done, without the court exercising its province to determine whether the suitor, or another person within its jurisdiction, was the proper person to act as receiver.

Besides, there is much less reason for allowing the complainant in this case to be recognized as receiver for the fund out of the State of New York and in this jurisdiction, even if the practice in chancery in respect to receivers was different from what we have said it was. The remedies which the judgment creditor in New York had under his creditor's bill against his debtor, were not applied as they might have been in that State, according to the practice in chancery in such cases. When Clark had been enjoined under the creditor's bill, and the receiver had been appointed, both judgment creditor and receiver knew at the time—certainly, as the record shows, in a short time afterwards—that Clark *had a pecuniary* claim upon the Republic of Mexico. No attempt was made, according to chancery practice, to coerce Clark by the attachment of his person under the injunction, to make an assignment of that claim for the payment of Camara's judgment. It cannot be said that Clark had not property to assign, and that it was therefore unnecessary to attach him. That would make no difference; for whether with or without property, he might have been compelled to make a formal assignment, even though he had sworn he had none. It was so ruled in Chapman v. Sabbaton, 7 Paige, C. R. 47, and in Fitzhugh v. Everingham, 6 Paige, 29.

There was a want of vigilance in this matter, which does not make any equity which he may have in New York upon Clark's property superior to that of Clark's creditors, who are pursuing the funds in this district. Nor according to the rule prescribed in the United States, that personal property has no locality on account of the domicil of the owner, to transfer it under a foreign assignment, can the receiver have in this case anything in the nature of a lien to bind the property of Clark not within the State of New York. When we take into consideration also the origin of the fund in controversy, the manner of its *ultimate recovery [*340 from Mexico, the congressional action upon it in every particular to secure it after the awards were made, to those who might be entitled to receive it; the jurisdiction given to the Circuit Court of this district, with an appeal from its decision to this court upon the principles which govern courts of equity to adjudge disputes concerning it, and that such cases were to be conducted and governed in all respects as in other cases in equity, we must conclude that the complainant in this case, as receiver, cannot be brought under the rule prescribed for our decision. We concur with the court below in the dismission of the bill.

Decree of the Circuit Court affirmed, with costs.

LEVI D. BOONE, Adm'r of Jesse B. Thomas, Deceased, Comp't,
v.
THE MISSOURI IRON COMPANY et al.

(See S. C. 17 How. 340-344.)

Specific performance—when not decreed.

The specific performance of a contract will not be decreed where the consideration agreed is due and has not been paid by plaintiff.

He who asks a specific performance of his contract must show performance, or offer to perform on his part.

Nor will specific performance of a contract to convey land be decreed, where the land has been sold on a judgment rendered for the purchase money.

Submitted Feb. 19, 1855. Decided Mar. 1, 1855.

APPEAL from the Circuit Court of the United States for the District of Missouri.

The case is fully stated by the court.

The court below having dismissed the bill, the case is here on appeal.

Mr. Britton A. Hill, for the appellees:

The complainants are not entitled to a specific performance of the title-bond of Mina

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Bullett to Jesse B. Thomas, dated November 2, 1836, as against the defendant Zeigler or the American Iron Mountain Co., for the reason that said Thomas has been in default for twelve years prior to the filing of his bill, and has not taken any steps towards the performance of the contract on his part.

2 Story Eq. sec. 771; 1 Fonb. Eq. B, 1, ch. 6, sec. 2, and notes; Gilbert, Lex Præter, 240; Brashier v. Gratz, 6 Wh. 528; Colson v. Thompson, 2 Wh. 336, 341; Taylor v. Longworth, 14 Pet. 172; 8 Cr. 471; Kendall v. Almy, 2 Sumn. 278; Boone v. Chiles, 10 Pet. 177; 9 Pet. 405, 416, 417; 10 Wh. 168.

A specific performance cannot be decreed in such a case upon any principle known to a court on equity. In Rector v. Price, 1 Mo. 264, the court held that "a party seeking a specific performance must show that the other party can be placed in statu quo; that he was, on his part, desirous and actively diligent to perform his agreement, but that he was, notwithstanding, prevented by intervening obstacles which he, as an active diligent man, could not remove."

See, also, Benedict v. Lynch, 1 Johns. Ch. 375; McKnight v. Taylor, 1 How. 161; Piatt v. Vattier, 9 Pet. 405; Bowman v. Wathen, 1 How. 189; Taylor v. Benham, 5 How. 237; King v. Hamilton, 4 Pet. 311, 328; Durretts v. Hook, 8 Mo. 374; McNeil v. Magee, 5 Mass. 244; Watts v. Waddle, 6 Pet. 389; Coulson v. Walton, 9 Pet. 62; 5 Ves. 720, and note.

Mr. Justice McLean delivered the opinion of the court:

This is an appeal from the Circuit Court of the United States for the District of Missouri.

The bill prays the specific execution of a contract between Thomas and the Missouri Iron Company, dated 15th August, 1839, which requires the defendants to give up and cancel the notes of Thomas to Nancy Bullett for $10,000, dated 2d November, 1836; to pay a debt due to Martin Thomas; to sell or transfer on the books of said Company, for the use of the complainant, $43,000 worth of stock of said Company, or, in the alternative, that the American Iron Company may be decreed to reconvey the one undivided seventh part of the Iron Mountain tract to the complainant.

The complainant died in 1849, and his death being suggested, an amended bill was filed praying for an account of rents and profits, for the use of the land and consumption of ores, timber, etc., by the defendants, and for a decree of title, etc.

On the 2d of November, 1836, Nancy Bullett, widow, sold to her brother, the complainant, one undivided seventh part of a tract of 20,000 arpents of land, in Washington County, Missouri, known as the Iron Mountain tract; and she executed to him a title-bond of that date, with the condition that she would convey to him the above interest, on the payment of two notes for $5,000 each, one payable at six, the other at twelve months from the date of the bond. On the 15th of November, 1836, Thomas made a similar title-bond to John L. VanDoren, with the condition to make a deed, upon his paying the two notes of $5,000 each to Mrs. Bullett; and also three notes of $5,000 each, given by him to Thomas, at eighteen, twenty-four, and thirty months, from the date of the bond.

On the 31st of December, 1836, the Missouri Iron Company was incorporated by the Legislature of Missouri, and VanDoren, Pease & Co. were named in the Act as corporators. The Company was organized; books were opened to sell the capital stock; Van Doren was appointed to obtain subscribers, but, being unsuccessful, he failed, made an assignment, and became insolvent. Agents were appointed to visit foreign countries; who returned, making a report that a banker in Amsterdam subscribed $600,000 of stock. The stock was raised to $5,000,000, but the Company soon became hopelessly embarrassed.

*On the 22d of February, 1839, James [*343 Bruce, who married Mrs. Bullett, conveyed all their interest in the one seventh of the Iron Mountain tract to Allen & Sloan, and also, assigned the notes of Thomas to them, for the consideration of $4,500. At the same time, Allen & Sloan gave a bond to Bruce and wife, to convey to Thomas all their interest in the one seventh of the tract, on his paying to them $9,000, the amount due on the original purchase.

On the 15th of August, 1839, A Jones, President of the Company, executed the following receipt to Thomas, under which he claims a specific performance against the Missouri Iron Company and the other defendants, to wit: "Received of Jesse B. Thomas, of Sangamon county, Illinois, a transfer of $71,400 of the capital stock of the Missouri Iron Company, $43,000 of which is to be transferred to Julius Sichel, of Amsterdam, to consummate a contract entered into with him. The residue of the stock to be appropriated to pay the balance due on the two notes given to Mrs. Bullett," etc.

On the 2d September, 1841, the Board resolved, that the President be authorized to receive back from Thomas the stock issued to him, etc., and the secretary addressed to him a letter, saying: "You will perceive that, by the above resolution, the President is authorized to cancel the bond or agreement, in relation to the transfer of your interest in the Iron Mountain tract. As the chance of doing something with the property is better than the stock, I presume you can have no objection to making the transfer; the Company is about to be dissolved, and the stock is worth nothing," etc.

It does not appear that this communication was ever answered by Thomas. He never paid, or offered to pay, the money due to Mrs. Bullett, or to Allen and Sloan, her assignees. He did not transfer to the Company the 714 shares of stock, nor demand the cancellation of Mrs. Bullett's title-bond, that he had assigned to the Company. Nor does it appear that he did any act to fulfill his contract with Mrs. Bullett.

In January, 1842, it appears that the Company failed, and all its property was sold on execution. In the amended bill, it is averred, that in 1842, the Missouri Iron Company was dissolved, being insolvent. C. C. Zeigler became the purchaser, at sheriff's sale, of all the Iron Mountain tract, for which he received the sheriff's deed, dated 6th July, 1841; and on the 6th of January, 1842, the Missouri Iron Company sold the tract to Zeigler, and executed a deed to him.

A decree had been rendered in the Circuit Court of St. Francois County, at the suit of Al-

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len and Sloan, assignees of Mrs. Bullett, against Thomas and J. L. Van Doren, for the 343*] sum of $11,475, *which was the consideration for the purchase of the undivided seventh part of the Iron Mountain tract, which was declared to be an equitable lien on the interest purchased; and under the decree of May 8, 1843, the property was sold to Zeigler, and both Thomas and Van Doren were barred and precluded by the decree from enforcing any rights against the same. Pending that suit, Zeigler purchased the interest of Allen and Sloan in the title-bond of Mrs. Bullett to Thomas, and the notes of Thomas given to Mrs. Bullett, for $6,500.

It appears that on the 24th of January, 1843, the American Iron Company was incorporated, and that Zeigler sold the Iron Mountain tract to the Company.

There is no evidence showing a connection between the Iron Mountain Company first formed, and the present American Iron Company, except that the latter Company is in possession of the same property, claiming it by sheriff's sale and deeds of conveyance under a decree, and from parties who were corporators of the first Company, and who represented the Company.

It would be difficult to find any case where the objections to the specific execution of a contract are more insuperable than in this case. In the first place, the consideration for which the property was purchased has not been paid, and the Statute of Limitations would have barred a recovery on the notes given, if suit had been brought on them at the time this bill was filed. It is true the purchaser from Thomas, Van Doren, agreed to pay these notes; but not having done so, the assignment affords no excuse for the negligence of Thomas in his lifetime. And there is no principle in equity better settled than that he who asks a specific execution of his contract must show a performance on his part, or that he had offered to perform. Neither of these has been done in this case.

In addition to this, it appears that the property claimed by the representatives of Thomas, which he never paid for, was sold in 1841, under a judgment obtained by Martin v. Van Doren, Pease & Co., the corporators named in the Missouri Iron Company, by the sheriff, and that C. C. Zeigler became the purchaser; and after this, the 6th of January, 1842, the Missouri Iron Company sold the Iron Mountain tract to Zeigler, and executed to him a deed. In the same year the Company was dissolved, being insolvent.

It also appears that a decree was rendered for the purchase money in 1843, which the court held was an equitable lien upon the land, and the land was decreed to be sold for the payment of consideration money; and one seventh of the whole tract, the amount purchased by Thomas, was, on the 8th of May, 1843, sold. This proceeding was had, on the ground that Thomas had abandoned his claim to the land. 344*] *By various efforts and contrivances, the stock of the first Company was advanced to $5,000,000, but as might be expected, after such inflation, the stock proved to be worth nothing, and the owners became insolvent.

Under the American Iron Company, which succeeded the first Company, extensive works have been established, and a prosperous business in mining is carried on.

On a full consideration of this complicated case, there seems to be no ground of equity on which relief can be given to the complainants. On the contrary, their equity appears to have been extinguished by negligence, in not paying the consideration, by the sale of the property by the sheriff, also under a decree of a court having jurisdiction of the case, and also by a conveyance of the Missouri Iron Company. A minute statement of the facts would be tedious, and cannot be necessary, as the case is free from doubts by the outline above given.

The decree of the Circuit Court, which dismissed the complainant's bill, is affirmed.

Decree of the Circuit Court affirmed, with costs.

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*MORGAN V. HINKLE, in his own [*353 right, and as Adm'r de bonis non of John Fisher, Deceased, Comp. and App't,

v.

MOSES WANZER, James F. Johnson, and John S. Hunter.

(See S. C. 17 How. 353-369.)

Assignment of fund, or chose in action—assignee or trustee as agent of, or debtor to, the creditor—what creates the relation.

Where notes are left by a debtor in the hands of attorneys for collection, their proceeds to be appropriated by them to the payment of debts of the debtor, the attorneys become trustees for his creditors with full power to appropriate the funds provided for their payment.

No particular words are necessary for an assignment, but any words are sufficient which show an intention of transferring a chose in action for the use of the assignee.

A mere expectancy, as that of an heir at law to the estate of his ancestor, or the interest which a person may take in the will of another then living, or the share to which such person may become entitled under an appointment or in personal estate as presumptive next of kin, is assignable in equity.

Where a creditor, in whose behalf a sum has been deposited by the debtor with a third person, receives notice of that fact from the third person, the notice will convert him into an agent for, and debtor to, the creditor.

(Mr. Justice CAMPBELL, having been of counsel, did not sit in this cause.)

Argued Jan. 18, 1855. Decided Mar. 2, 1855.

APPEAL from the Circuit Court of the United States for the Southern District of Alabama.

The bill in this case was filed in the Circuit Court of the United States for the Southern District of Alabama, by the appellant, to restrain the collection of an execution on a certain judgment in favor of Wanzer. The bill having been dismissed in the court below, the case is now here on appeal.

A further statement appears in the opinion of the court.

Messrs. P. Phillips and A. F. Hopkins, for the appellant:

There was no assignment or appropriation of the note in question by Fisher to Hunter, nor any intention to make one. But on the contrary, the attorneys were at all times bound to hold the surplus funds that might accumu-

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HISTORY OF IRON MOUNTAIN

By Judge William R. Edgar

In the year 1843 a St. Louis newspaper published the following description of Iron Mountain:

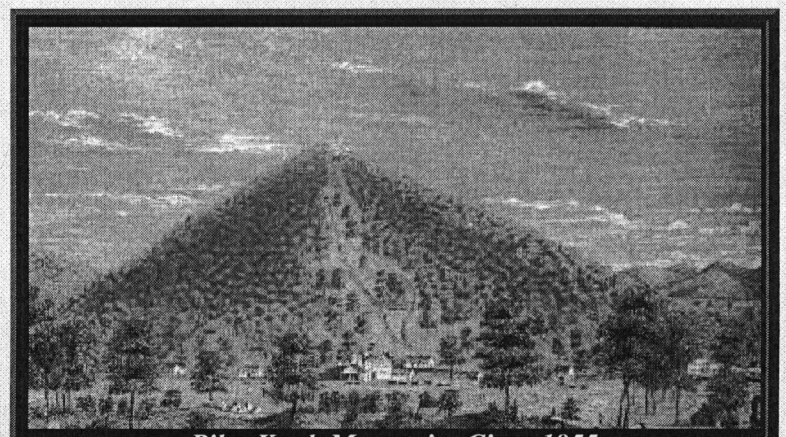
> "It is about a mile broad at the base, 400 feet high and three miles long; and has the appearance of being composed of masses of iron ore. It is literally a mountain of ore so pure that it yields from 70 to 80 per cent under the ordinary process of converting it into malleable iron. At the base the ore lies in pieces from a pound weight upward, which increases in size as you ascend, until they assume the appearance of huge rocks, which would remind the beholder of those "fragments of an earlier world" of which the Titians made use. Six miles southeast in another mountain called Pilot Knob, composed of a macaceous oxide of iron lying in huge masses. This ore will yield about 80 per cent of metal."

This huge mountain of iron was the subject of conversation throughout the nation. Immigrants from the European countries heard of it immediately upon their arrival in New York and as a result, many of them came to Missouri and settled in the vicinity of Iron Mountain. For a time the people of the Atlantic Sea Board considered it a fable. They referred to it as a mineralogical joke. It is said that at the White House dinner, the president of the United States, with a skeptical smile, said to the wife of a senator from Missouri, "Mrs. Linn, I hear you have, in your state, iron ore so pure that it does not have to be smelted; that you forge directly from the ore." Mrs. Linn informed him that his information was correct and when she returned to Missouri, she sent to the president, a knife made by a Missouri blacksmith from a chunk of ore. Much missionary effort was required to impress the people of the east about the truth of the mineral riches of Missouri. Senator Linn obtained from the much ridiculed Iron Mountain a lump of ore weighing two tons and sent it to Paris, for examination by men of science. These experts gave formal judgment that this Missouri ore was the best of iron, and for many purposes, far superior to any they had ever seen. They were so much interested that they made a set of ornaments from this ore and sent it to the wife of the senator. For many months Mrs. Linn wore her Paris-made jewelry of iron for the benefit of Washington doubters.

Examining the history of this Iron Mountain, we find that during the latter part of the 18th century, the

Spanish government gave this mountain to Joseph Pratte. The grant covered a tract five miles square, with the mountain located about the center and was referred to as "a concession or order of survey made by Zenon Trudeau as lieutenant-governor of the western part of Illinois, in favor of James Pratte and dated October 17, 1797, for 20,000 arpens, on the waters of the river, St. Francois." We are told that Pratte was a man of great influence in southeast Missouri, or as it was then known, Upper Louisiana. He had made himself especially useful to the government in adjusting Indian troubles—there was no man in all those parts who could go out and pacify the Redskins as Pratte could – and he was frequently in demand to act as an arbitrator in the differences which arose between the settlers and the Indians. One of the largest of the Indian towns in that part of the country was at the base of Iron Mountain, and it is probable that Pratte gained his knowledge of the mountain from the visits he made to this Indian town on his peace errands. However, when the governor of Upper Louisiana suggested to Mr. Pratte that his services entitled him to recognition and asked him what he should recommend to the government as a suitable honorarium, the peacemaker said he would take this mountain. Pratte died and the grant was ultimately confirmed to Joseph Pratte and his legal representatives.

The records of the Missouri Board of land commissioners show that on June 25, 1833, theboard recommended that the grand or claim ought to be confirmed to Joseph Pratte or to his legal representatives; Francis Valle, Charles C. Valle, Robert T. Brown, and Catherine Brown (his wife), Walter Wilkerson, and Emily Wilderson, George Bullet, and Celest M. Allen. The land records then disclose that the title remained in the Pratte heirs for several years until John Livingston van Doren ofWashington county, Missouri, became interested in the property and began to acquire the interests of the various heirs. In their conveyance the property was referred to and known as the Iron Mountain tract. In December 1836, the Missouri Iron Company was incorporated by a special act of the Missouri legislature, which was the statutory method of forming corporations in those days, and van Doren conveyed the tract to said company on March 9, 1837. In this conveyance, the tract is referred to as Iron Mountain, situated on the head waters of the St. Francis River and adjoining Missouri City, containing about 4500 acres and being a part of the concession of 20,000 arpens of land by the Spanish government to Joseph Pratte. It is interesting to note also, that in this conveyance, the sale or gift of spititous or intoxicating liquors, gambling, lottery or houses of ill fame, were prohibited on said lands with a provision that said restrictions should be incorporated in future deeds. The conveyance contains a further provision that "the party of the second part agrees to give Missouri City University, 1/10 of all funds arising from the sale of native and unwrought iron ore of the Iron Mountain or any of the ore beds or mines owned by said Missouri Iron Company." The consideration for the conveyance was 49,945 shares of stock of the Missouri Iron Company. This deed also conveyed "a tract in Madison county, Missouri; including a mountain of ore, which mountain is known by the name of Pilot Knob—and the president and board of directors of said Missouri Iron Company—bind themselves to construct a railroad from the Iron Mountain to Iron Mountain City on the Mississippi River or to such other point hereafter to be selected by said J.L. van Doren on said river within five years from the date hereof."



Pilot Knob Mountain, Circa 1855

Here is proof of record of the often repeated tale that the Iron Mountain mine was responsible for the construction of one of the major railroad systems of our country. Originally it was the St. Louis and Iron

Mountain Railroad Company, as we will note from a later reference in this memorandum.

One of the most interesting conveyances of record in the chain of title to the Joseph Pratte Survey is conveyance in 1838 in which the grantee, Missouri Iron Company, agreed to "present by a good and sufficient warranty deed, 300 acres of farming land lying north and northwest of Missouri City and not more than a half mile from the present north line of said plat and also all the building lots as contained in Block 20, 35, 26, 44, 54, 63, 70, 80, and 87, and lots 1, 2, 3, 4, 5, 6, 7, and 8 in Block 45, and lots 4, 5, 6, and 7 in Block 55, to the president and trustees of the Missouri City University; also all the lots in Block 52 to the said president and trustees of the Missouri City University for a young ladies institute; and also lots 4, 5, 6, and 7 in block 94 to trustees of the Trinity church; and lots 1, 4, 5, 6, and 7 in Block to St. Paul's Church, said churches to be the Calvinistic Protestant Episcopal church; also lots 7, 5, 6, and 1 in Bock 28, and lots 4, 5, 6, and 7 in Block 43 to the Presbyterian church of the United States of America; also lots 4, 5, 6, and 7 in Block 74 to the Methodist Episcopal church: also lots 4, 5, 6, and 7 in Block 57 and lots 4, 5, 6, and 7 in Block 123, to the open Communion Calvinistic Baptist Church; all the block north of Block 1 to the trustees of an orphan's asylum; all of the block north of Block 24 to the trustees of a lunatic asylum; all the block north of Block 42 to the trustees of a city hospital; all the block north of Block 61 to the trustees of a deaf and dumb asylum and all the block north of Block 78 to the trustees of an asylum for the blind; also a lot of 50 acres of land to the trustees of a house of refuge for juvenile delinquents, to be situated not less than 1 ½ miles northeast of the city plat on the present Iron Mountain and Farmington road; also the whole of the City Hall Park to the corporation of Missouri City for a city hall; also to appropriate lots 3, 4, 5, 6, 7, and 8 in Block 101, for two hotels to any individual who should obligate themselves to erect them subject to the approval of the Board of Directors of the Missouri Iron Company; also the eastern half of Block 136 and the northern half of Block 68 to the corporation of the city for two market houses; also all of Block 130 to the trustees of a widows' asylum; also Block 19 to the trustees of a city lyceum; also lots (any eight) to the trustees of public schools; also 25 acres of good farming land for a city flower garden to be situated not more than one mile from the city plat, to the trustees of a city horticultural society; and 30 acres for a city burying ground, not to be more than two miles from the city plat, to the trustees of said burying ground, said ground to be laid out on the plan of Mount Auburn Cemetery near Boston."

"The party of the second part further covenants and agrees that 11 of the buildings and other improvements in said Missouri City shall be required to be situated and erected not less than 12 feet from the front line of said lots and also that all lots sold be required to be improved within five years from the date of sale, except lots used for ornamental lots or ground adjoining other improved lots, and that all such buildings and improvements shall be in strict conformity to an exterior plan designed and previously determined upon by the Missouri Iron Company for the particular block in which said buildings are to be erected, thereby giving uniformity to each city Block; also lots 4, 45, 56, and 7 in Block 67 and lots 4, 5, 6, and 7 in Block 52 to the catholic Church; all the foregoing lots for the building of churches are to be deeded to the respective denominations as soon as regular congregations obligate themselves to erect upon their respective building lots, frame, stone, or brick houses of worship, not less than 50 x 80 feet on the ground."

A reading of the contents of this conveyance convinces one that the interested parties were sure that they owned an iron mine which would support the metropolis of the Middle West for many years to come, and certainly it cannot be said they were not men of vision who believed in making due preparation for future developments. Unfortunately, Missouri City did not develop in accordance with their dreams.

It is apparent from the land records that about this time the mining industry at Iron Mountain began to experience financial difficulties, and the records show that in October 1841, the property was sold at public sale by the sheriff of Washington County, Missouri, under execution for debt; and the purchaser was Conrad C. Zeigler. The property was also sold in November 1841, at public sale by the Sheriff of St. Francois County, Missouri (the sheriff being Milton P. Cayce, one of the early residents of St. Francois County and father of M. P. Cayce who resides in Farmington now); and the purchaser at this sale was also Conrad C. Zeigler, who was again the purchaser at a public sale by the sheriff of Washington County, Missouri, under execution for debt in February 1842.

In 1843 Conrad C. Zeigler and James Harrison, having purchased the equity of the former owners,

obtained a charter for the American Iron Mountain Company which was incorporated by the Missouri legislature. In 1845 Zeigler and Harrison conveyed the interests which they had acquired and vested title to the property in the American Iron Mountain Company.

It was in 1855 that the St. Louis and Iron Mountain Railroad Company was constructed and a right of way deed was recorded by which the American Iron Mountain Company conveyed a right of way over its lands for railroad purposes. Until 1871 the terminus of said railroad was at Pilot Knob, Missouri. Prior to this time there was no railroad, and the only outlet to market was by wagon eastward forty miles or so to the river. About midway between Iron Mountain and the river, furnaces were built for the reduction of the ore, and these were operated for many years under the name of Valley Forge. The forge, however, was a part of the Iron Mountain enterprise; the ore was laid upon wagons, hauled to the forges, there converted into blooms and then transported to the river to be distributed throughout the Mississippi Valley. Then, to expediate the business, a plank road was built and for many years the traveler encountered at two or three places on the "pike", as it was called, the long bar which was lifted only when the regulation toll was paid. These toll gates were in existence until the early part of the 20th century and were the last relics of the toll gate system in Missouri. The forge was located near Farmington for the reason wood was plentiful in the vicinity. Vast quantities of charcoal were used in the furnaces. To keep up the supply, the company bought tracts of land solely to acquire the timber on them. This accounted for the possession at one time of 32,000 acres, nearly double the amount conveyed by the Pratte grant, which with its 20,000 arpens (approximately 17,000 acres) lay in one body. The other tracts were scattered over a stretch of country 30 miles long and dozen miles wide.

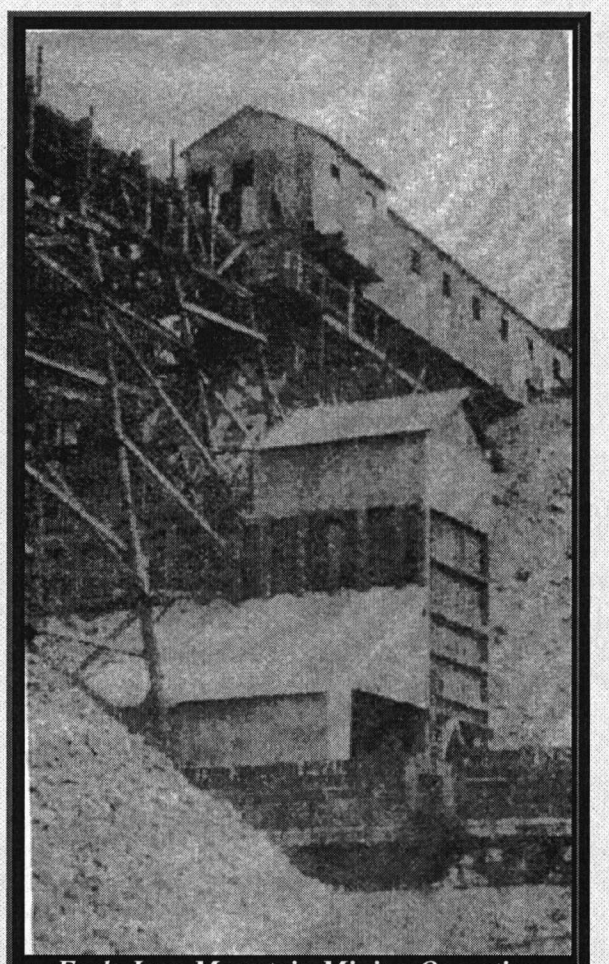
Wagoning iron ore and blooms proved too slow and too costly, but even with that method of transportation the American Iron Mountain Company made such a showing of enterprise that capital was tempted to result. Its construction was prompted and encouraged by the prospect of ore and iron shipments.

It is a matter of record that early operations were primitive. The ore was picked from the crest of the mountain in chunks, trundled down the mountainside on tramways and laid on the cars ready for shipment. Pick and shovel dislodged the masses. Gravity furnished the power, for the loaded car getting down, pulled the empty one up. That was picking up dollars. One workman was good for six or eight tons a day. Ore was worth nine and ten dollars a ton, and 100 cars a day left the mountain for the furnaces. There were periods when the shipments went over 1,000 tons a day, and every on meant a five-dollar bill to the stockholders. A net income of $5,000 a day, it meant.

The cap of the mountain was taken off and then the core was excavated. The visitor stood on what looked like the edge of a crater and gazed down on the network of tramways and inclines and saw the stalwart miners following the veins downward so far away they looked like small boys. One of those veins was twenty-five feet thick and pure ore—so pure that is seemed probably it was the vein through which the molted ore found its way upward to the summit of the mountain. This vein lay perpendicular. It was, to all appearances, the mother vein of Iron Mountain. In the other veins and deposits there was more or less dirt or rock mixed with the ore, and the product from them was put through an elaborate process before it was ready to ship. First, it was hauled out, heaped up and hydraulicked. Up the valley there was a massive stone dam which caught the waters of Indian Creek and formed a lake large enough to furnish good fishing the year round and a big crop of ice in winter. The water from this lake was pumped to the top of the neighboring mountain and there kept in a concrete tank, which held 700,000 gallons. The rocky summit made excavation impossible, and the concrete walls were build fourteen feet above the surface. From this tank, pipes led down the mountainside, across the valley and to all parts of Iron Mountain. This water, with a pressure of from twenty-five to forty pounds, was turned on the ore piles until all the dirt that could be washed away was carried off. Then the ore went to the separator to be rolled, rattled, and shaken over screens and jigs. At every stage in this process some ore, being heavier than the rock, dropped out until finally the tailings contained only a small per cent of mineral. The product of the mine lost fifteen per cent of its weight in the washing process and twenty per cent in the separator, but the process paid. One man with his stationary hose could hydraulic a thousand tons a week, and the separator did its work as rapidly as the carts could unload into the mouth of the revolving funnel. Iron manufacturers like their ore cleaned. It saved the cost of reducing clay and rock along with the metal. Some of the ore came from the separator in pieces that size of macadam, and some were small as grains

of corn. There were five sizes, but they all were mixed together from the market, and they graded from sixty to sixty-five per cent iron.

Iron Mountain was one of the natural wonders of the world. For two generations, scientific men came to see, marvel, and speculate on the origin. Every week there was at least one arrival. The hotel register read like the front part of a college catalogue or the roll of an academy of science. The treatment of these visitors was another of the peculiar things about the Iron Mountain management. The latch-string was always on the outside. Not only were the mines open to inspection, but from the superintendent down there seemed to be a tacit understanding that all information possible should be cheerfully furnished.



Early Iron Mountain Mining Operation

Underground mining gradually took the place of open work at Iron Mountain. For some years there was nothing to do but to pick up the ore in chunks as it lay piled on the crest of the mountain. This formation was forty feet thick in places. When the chunks had been cleared away, then came veins of all sizes and extending in all directions. Some of them curved and twisted into the most fantastic forms. Some were almost perpendicular and some were almost horizontal. Theory accounted for the layer of chunks on the surface by the supposition that at some time there was an upheaval and the molten ore spouted into the air to a considerable height and fell back to be broken and scattered about over the mountain top. The same theory supposed thyat when the upheaval came, lifting the porphyry, limestone, and sandstone, the molten ore poured through the broken masses and filled innumerable crevices; and thus the bewildering confusion of ore veins and deposits was accounted for.

Scientists had to construct theories for Iron Mountain alone. Conditions there had no parallels anywhere else. But it must be admitted that the gentlemen were equal to the demand upon their theorizing powers. They

came, wandered over the mountain, and gazed at the formations through their spectacles. They sat on the gallery of the comfortable Iron Mountain hotel, while the evening breezes played, and told Superintendent Philley how it all came about. To be sure, the theories varied a great deal. One man thought the formation was aqueous; that the upheaval took place when the mountain tops were covered with water. Another man was just as sure the molten ore spouted up after the water receded. Mr. Pilley listened. The professor who had spent two days there knew ten times as much about Iron Mountain as the superintendent, who had been there a quarter of a century did. That is, if the hearer might judge from the emphatic assertions of one and the guarded expression of the other. But the superintendent had learned by long experience that nothing was certain at Iron Mountain except the existence of ore. He knew what he saw and that was enough.

After the surface chunks were removed, the veins and deposits were followed down, some of them a hundred feet and more. There used to be a little mountain. It was in the nature of a western annex, for there was a depression between the two summits. The little mountain became a great hole in the ground. It had a thick vein, which dipped at an angle of 38 degrees. This vein was worked as an open cut, until all that was left of the little mountain was the hole. The vein was followed to a depth of 280 feet. For a long time the ore was hauled up to the edge of this cavity and then run down the other side to the railroad track. This became too long a haul. A shaft was sunk at the base of the little mountain, and ore was taken out by underground passage.

With perfect confidence, the Missourian, before the war, spoke of the iron deposits near by as inexhaustible. At Iron Mountain a shaft had been sunk 144 feet. It gave fifteen feet of clay and ore, thirty feet of white sand, thirty-three feet of blue porphyry and fifty-three feet of pure iron ore in which they are still at work. This was at the base of the mountain. These explorations were thought to justify the conclusion that no other country in the world of the same extent had so abundant and accessible a supply of iron as Missouri.

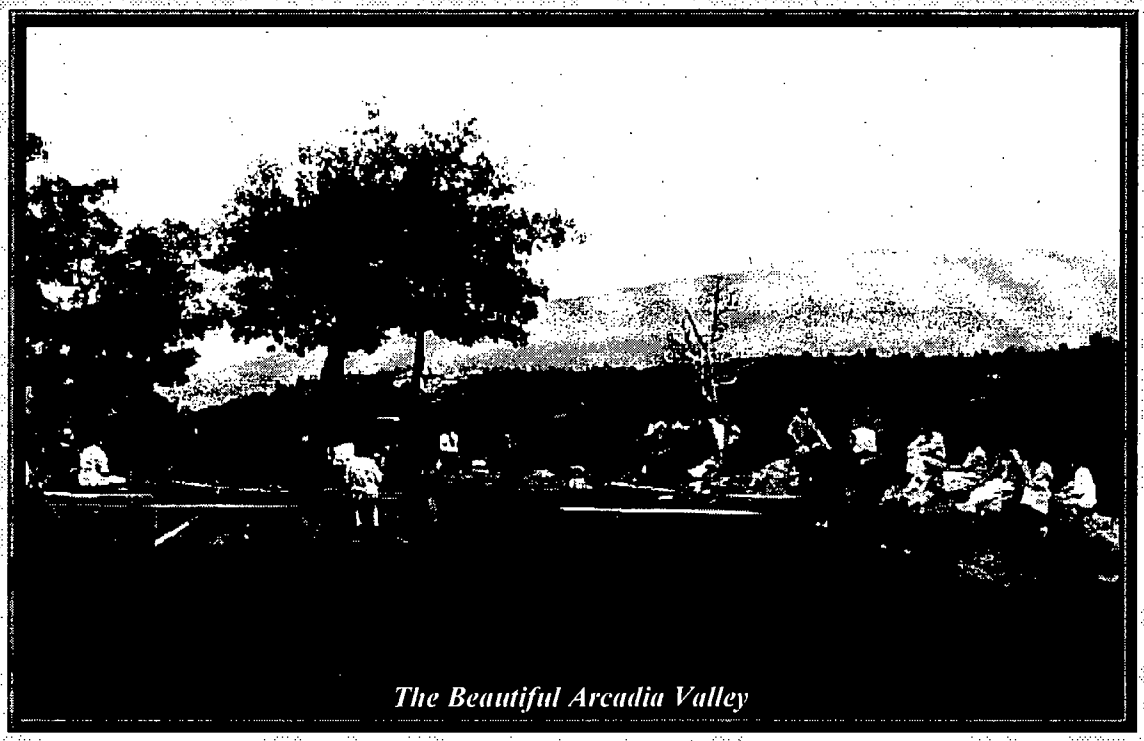
But there came a time when the ore deposits at Iron Mountain appeared to have been exhausted. Operations were suspended in the latter part of the 19th century. For a number of years the property lay idle. It then drifted into the hands of promoters. In 1904 it was conveyed to James W. Darst who shortly thereafter conveyed it to William H. Smollinger. He was much interested in the breeding of find horses. He constructed a fine race track on the property immediately west of the Missouri-Pacific railroad right of way and for several years he was known throughout the Mid-West where his horses won many State Fair prizes. In 1917 he conveyed the property to Pleasant Valley Development Company, a Kansas City outfit headed by Mr. E. E. McKee. Then about 1918, Mr. W. J. Elledge appeared on the scene. Elledge was a mineral hound; spending all his time on the trail of minerals and mining prospects. He acquired title to the property and for more than two years made valiant efforts to finance operations. He finally conveyed the property to Earl A. Clemons, who was a Chicago man at that time interested in a mining enterprise in Wayne county.

In May 1920, the property was purchased by Leonard A. Busby of Chicago and he organized another Iron Mountain Company. Mr. Busby was a highly successful lawyer and business man in Chicago, for many years president of the Surface Railway Lines in that city; between 1920 and 1927 he devoted much of his time and money in an effort to revise the mining industry at Iron Mountain. It is a matter of record that he and his business associates lost in excess of one million dollars in cash, in their operation during the seven years mentioned; and approximately seven hundred fifty thousand dollars of this amount was out of Busby's individual pocket.

In 1927, Mr. Busby succeeded in interesting the M. A. Hanna Company of Cleveland, Ohio, and the Hanna interests furnished funds for further exploration work. As a result, new and additional ore bodies were discovered which had escaped the attention of all previous owners and operators, who had been interested in the property for more than a century. Other difficulties remained to be surmounted, however, by way of smelting and transportation expense and as a result, the mine has only resumed operation.

This property has had an extremely interesting history; only a brief outline has been presented here. Iron Mountain has seen its good days and its bad days during more than one hundred years of intermittent iron mining operations. Under present conditions, with the property in the hands of one of the outstanding iron

mine operators in the country and with sufficient ore in sight for many years of operation, there is no reason to doubt the statement recently given to the press by an official of the M. A. Hanna Company in which he predicted that "operations having been resumed, Iron Mountain will be in operation from now on."



The Beautiful Arcadia Valley

The Iron Mountain mine is almost at the doorstep of Arcadia Valley. While the major portion of the property is located just across the county line geographically, Iron Mountain is a part and parcel of our community, and it is with great pleasure and personal satisfaction that we welcome the people who are going to be responsible for its future.

NOTE: We're not sure of the exact date that the above article was written by Judge Edgar, but believe that it was written sometime in the 1940's. Many thanks to Jeanne Nassaney for transcribing this article for us!

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