

S I L I C O S I S

A Problem of Public Welfare in St. Francois County, Missouri.

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Outline

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S I L I C O S I S

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The recognition of silicosis as, a community problem is the major reason for making this study. Silicosis lawsuits in St. Francois County not only involve several millions of dollars but also the welfare of several hundred families and their health and economic well being. Interest was aroused relative to the problem, when, as social workers we began work with the families in the Lead Belt District.

"A strongly humanitarian turn, probably stimulated by the more than \$50,000,000.00 in silicosis claims outstanding in this country has recently caused mining engineers to study human problems of mining along with those more traditional to the profession of wresting valuable minerals from the earth."

Recently the American Institute of Mining and Metallurgical Engineers in New York devoted two sessions to silicosis. Benjamin F. Tillson, Consulting Engineer of Montclair New Jersey made the statement that silicosis claims in gold mining alone costs \$1.00 for every \$5.00 cost of gold production.

The rapid increase in silicosis suits is giving serious concern to the construction, quarry, mining, foundry, and glass industries. At the completion of a three mile tunnel in West Virginia, recently, 200 damage suits aggregating \$4 million have been made against the contractors. Suits totaling over \$30 million have been brought up in the State of New York in the last year or so. Damages litigation now pending probably totals more than \$20 million, an \$100,000.00 claims are being entered instead of smaller amounts as in the earlier days. The employers are bewildered and do not know what to do. The disease has been recognized twenty years but there is no known cure at the present date.

This epidemic of law suits is induced in part by the growing realization among the workers of the silicosis menace, and in part by the legal racketeers who have been stirring up trade on a contingent fee basis by getting the workmen to lodge complaints against their employers.

The first trial in the West Virginia suits ended in a hung jury after six weeks. One man sued who had worked two days. One was a water boy who never worked in the tunnel. It has been estimated (though probably not authoritatively) that 90% of all men laid off by the National Lead Company and the St. Joseph Lead Company have law suits against the two Companies. It has also been estimated that \$5,500,000.00 are involved in the silicosis law suits in St. Francois County.

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An occupational disease is defined as the morbid results of occupational activity traceable to specific causes of labor condition and followed by more or less incapacity for work. The term "pneumoconiosis" meaning dusted lung is employed to designate diseases of the lungs resulting from dust inhalation of any sort, although preference is now given to the use of a more definite term descriptive of the type of dust. Among these more frequently used are "silicosis", "asbestosis", "anthracosis", and "siderosis", signifying lungs induced by the inhalation of dust disease because it distinctly predisposes tuberculosis, often being called "miner's consumption."

According to Pancoast and Pendergrass the Pathological aspects of silicosis are as follows,

The dust, in order to be harmful to the lungs, must gain entrance to the lymphatic system of the lungs. It must be taken into the lymph channels and spaces by the phagocytic cells. In order for this to take place the particles must be less than 10 microns (2500) to an inch in size. Larger particles are lodged in the bronchial tubes and coughed up. Recent investigations show that approximately only 50% of the particles even under 10 microns in size are retained in the lungs.

The dust cells lodge in the outposts of the lymphoid deposits. This initiates the change in chemical composition of the silica particles into a hydrated colloid, which is now believed to be the destructive agent to the cells, although many authorities still contend that it is the abrasive effect of the particles which causes the damage. These dust laden cells die and discharge their destructive contents to other cells, until eventually the pulmonary lymph nodes are reached. Whenever silica is deposited a cellular reaction occurs with an infiltration and a proliferation and eventual local necrosis, followed by healing with fibrous tissue. The pulmonary lymph nodes become a lymph block in the perivascular and peribronchic lymph vessels caused by a thickening of the lymphatic walls.

The diagnosis of the occupational disease, silicosis, is based on a history of the patient, his physical condition, and a progressive series of X-ray photographs of his lungs. The history includes the length of time spent in a dusty industry, the type and concentration of dust to which he was exposed, including the approximate percentage of free silica in the dust. It also includes the record of the development of a dry cough and a history of occasional pains in the chest which is incident to the development of pleurisy in relation to silicosis.

The strange thing about the occupational disease of silicosis is the fact that a patient may be in the later stages of the disease before there is any noticeable change in his general appearance. He will usually look well nourished, have a ruddy complexion, and perhaps even gain weight with the onset of silicosis, and to the casual observer there seems to be no impairment in his physical ability.

Very early in the disease a limitation is developed in the expansion of the chest. This expansion decreases as the condition increases. In the later stages the chest walls are apparently fixed and the patient moves only the abdomen and perhaps the lower part of the ribs in breathing.

Dyspnoea or "short-windedness" has long been considered the cardinal symptom of silicosis. In the early stages the fibrosis progresses gradually until it completely fills the alveoli, and by the continuous displacement of normal functioning tissue produces a progressive dyspnoea. This "short-windedness" may also tend to increase the amount of dust taken into the body. A man working underground on a contract basis, will become winded but in order to do the contracted amount of work will continue by mouth breathing. This eliminates a portion of the respiratory system especially provided by nature for protection against dust particles. Thus through one phase of the condition he is aggravating the condition in general.

Pains in the chest are also a common complaint among patients suffering from silicosis. These are usually of a transitory nature and may be attributed by the worker to rheumatism, lumbago, or some other remote cause. When these pains are severe enough to cause loss of time from work it is usually a sign of incipient tuberculosis.

Gastrointestinal disturbances are another common symptom of silicosis, especially in the later stages. Among these are flatulency, constipation, pain after eating, vomiting, and others usually referred to by the men as indigestion. Many complain of loss of appetite and this condition increases as the disease progresses.

None of these symptoms is a constant finding in silicosis; but in most instances one or more of them will be found, especially in the later stages of the condition.

The most significant single means used in the detection and diagnosis of silicosis is the X-ray. That this method is not infallible is pointed out by Pancoast and Pendergrass in their article on the "Roentgenological Aspects of Pneumoconiosis and its Medico-Legal Importance." They report that the appearance of prominent hilum shadows and increased prominence of trunk shadows and linear markings, with or without faint haze is usually considered first stage silicosis. This appearance may be caused also by acute bronchitis, chronic bronchial catarrh, the infiltrating type of malignancy, and polycythemia. All of these must be eliminated before the patient can accurately be said to have silicosis. According to these prominent physicians this sort of X-ray is the basis of most claims for damages, but it does not represent an incapacitating degree of condition in any way.

The appearance of buds or beads along the bronchial tree in the X-ray picture marks what is commonly considered the second stage of silicosis. The condition is generally described as general mottling and the density of both sides of the chest is about the same.

In the third stage these beads tend to coalesce and form areas of marked density from one-fourth inch to several inches in diameter. These areas of density occur most frequently in the mid-section of the lung and are often referred to as "snow-storm". These areas somewhat resemble a tuberculosis area but are usually distinguishable because they are more dense than in tuberculosis.

The statement was made by one doctor that twenty to thirty percent of the cases of silicosis throughout the world were complicated with tuberculosis. This complication may take place at any stage in the silicotic condition. The X-ray shows the changes described under the various stages of silicosis but in addition areas of marked density are observed, usually less dense than when tuberculosis is not present. The areas also have a more "cottony" or "wooly" appearance. The areas at the base of the lungs will often have the appearance of a walled-off abscess of large silicotic area, but in many instances a true diagnosis is very difficult unless tuberculosis bacilli are found in the sputum. The change in the appearance of the individual is marked and may be dramatic in its suddenness. As a rule these cases proceed to a fairly rapid termination in a year or two.

The prognosis in silicosis in its early stage is good provided the patient is removed from the dusty atmosphere, but in the later stages the prospects for recovery are not favorable. Even when removed from the dust exposure the disease often tends to progress and to be complicated with infections, chief of which is tuberculosis.

The treatment recommended by Mariwether and Sayers is mainly preventive, and lies entirely in protection of the workers from undue quantities of dust. The only curative treatment is removal from the dusty occupation in the early stage, but in later silicosis symptomatic treatment for relief of the patient is all that can be expected.

According to D. Harrington, Mining Engineer, U. S. Bureau of Mines, dust prevention in metal mines may be aided by the following:

1. Elimination of dry drills and dry drilling.
2. Elimination as much as possible of drilling of upper holes when necessary to use dry drills.
3. No blasting should be done during the working shift.
4. Much piles, ore chutes, etc. should be done down where the muck is dry and finely divided.
5. Use of water sprays to moisten air in places where there is much handling or stirring of dry dusty material, this being especially the case in downcast shafts or other main intake air courses.

The use of respirators for protection against dust disease is problematic in several ways although popularly advocated. It is very difficult to devise a respirator which one be worn comfortably and will at the same time provide protection against the smaller and most dangerous dust particles. The positive pressure mask may be used with a fair degree of success but is not practical where the worker must have freedom of movement. It is an expensive apparatus and cannot be provided for large numbers of men.

The best type of modern respirators if properly worn will remove 85 to 90% of the dust particles under 10 microns in size. In one plant where this type is used each worker is provided with two masks. One is the laboratory for cleaning and inspection while the other is being worn. One man is employed for the express purpose of taking care of the respirators and seeing that they are properly worn by the employees. These respirators are of the filter type, having a woolen or felt filter through which the air taken into the lungs of the individual must pass. However it is very difficult to make them wear even this type of mask and requires a constant vigilance on the part of the supervisors.

Cleanliness about the plant is one of the best protections against dust disease. Floors in mills should be so constructed that they can be easily swept and should as far as possible be designed so that it will not harbor dust and can be easily cleaned. Inspections by responsible persons should be a regular part of the mill routine.

No discussion of an industrial disease is complete without a consideration of the methods of compensation for death or disability throughout the world where dust disease is a problem.

The Sandstone Industry (Silicosis) Scheme of February 1929 in England provides for a register, supplied by either the employer or the Medical Board, on which shall be recorded the date of commencement to work for the employer, his previous employment in the sandstone or other dusty industry, and the date of physical examination by the Medical Officer making the examination or the worker's failure to live up to regulations on the part of the workman employed in the industry on or after April, 1929, or in case of his death, his dependants, will be entitled to compensation. If the death or disability is caused by silicosis. The disease must be due to employment in the industry and will be considered so if the worker has been employed in a dusty trade for a period, or combined periods, of five years, -and- unless the employer proves to the contrary. The Scheme provides for periodic physical examination made at the works, and if a workman refuses to submit himself for examination he forfeits the right to compensation.

On February 11, 1920, the Labor Minister of Germany issued an order making compensable dust-lung diseases contracted in certain industries. This shows a recognition of the problem by the German Government because the order of May 25, 1925 did not include illness caused by dust.

The stonemasons Act of 1911 and 1921 in Netherlands requires every stonemason under 21 years of age to have a stonemasons card, which is issued to him after a free physical examination provided the examination shows nothing which would make this trade especially dangerous to him. Stonemasons over 21 years of age are issued cards

regardless of what the examination shows. At the end of a three year period the stonemasons must be re-examined and a new card issued. The examination also includes X-ray pictures of the lungs. This provides an excellent opportunity for the study of silicosis in its various stages of development. The conclusion is that silicosis as an occupational disease should be assumed to be an accident for the purposes of application of the accident act.

In South Africa the administration of the Miner's Phthisis law is vested in the Miner's Phthisis Board. In 1930 it was estimated that the total cost to the Companies for compensation in miner's phthisis was the equivalent of 6 shillings and 10 pence per shift for each white employee working underground. In fact the cost was so great that it threatened the life of the gold mining industry in South Africa. The annual levy on each mine in the Group paid to the Miner's Phthisis Board is \$800,000 and in 1929 two mines were forced to shut down because they could not pay their compensation. There is evidence of the growth of an idea among the miners in South Africa that a gold mine is a bottomless purse and that after working in the industry for a few years they should be provided with a pension whether sick or sound, and retired to enjoy life.

Bolivia passed a law in April, 1928 dealing with problems of occupational diseases. Pneumococcosis, anthracosis, lead poisoning, occupational dermatosis, tobacco poisoning, anthrax, pulmonary sclerosis, nephritis, and pulmonary tuberculosis are the diseases which come under the law. Workers who are incapacitated as the result of one of these specific diseases shall be compensated as follows:

For total permanent disability an amount equal to two years wages; for permanent partial disability, one years wages; and for temporary disability, half pay during the time of disability in addition to the cost of treatment.

Compensation is to be paid in the following instances:

1. When the disease is contracted by the worker in the exercise of his occupation or trade (a worker must have a physical examination before being employed in a factory, workshop, or mine.)
2. When the disease is due to the type of work done by the patient during the year preceeding the disability.
4. When the worker has not suffered from the illness before taking up said work.

Workers on drills in underground workings or in ore mills or kilns, that is those principally exposed to pneumoconiosis will be entitled to thirty days annual holiday with full pay at the end of each consecutive year of work.

Workers not satisfied with their examination before and after employment may claim compensation from the management on presentation of another medical certificate issued by a recognized physician.

The United States, with the exception of a few states, is the only English-speaking country to-day where silicosis is not compensated. Cases of permanent disability are appearing in our common-law courts, particularly in those states where no compensation is provided. A man facturer may not recognize that he has a dust hazard until he is summoned into court, and finds much to his sorrow that his industry was one of the most dangerous. These cases, when handled by able lawyers and where the employer is not able to prove beyond the shadow of a doubt that all precautions were taken, are very difficult to defeat.

In Missouri, the employer may elect to pay compensation for pneumoconiosis under the Workman's Compensation Laws or he may stand a damage suit in the common-law courts. The situation in the Lead Belt of South east Missouri is an example of the latter.

Since the curtailment of operations in the mines of the St. Joseph Lead Company in 1933 there have been 137 cases filed in the Circuit Court of St. Francois County against the Metropolitan Life Insurance Company. These were on Insurance Policies carried \$4,000.00. The lawyer handling most of these cases was W. Brookshire, of Farmington, who has had 85 cases.

The years 1933 and 1934 see a decrease in this type of suit and an increase in suits against the St. Joseph and National Lead Companies for damages resulting from work in their mines. \$5,000.00 is a very modest claim in one of these suits, most of them ranging from \$15,000 to \$50,000.00. There is also a change in the lawyers handling the cases. While the preponderance of cases against the Metropolitan were handled by local men, the greater number of the damage suits are in the hands of St. Louis Firms of Lawyers. Prominent among these are the Foristel, Todd, Hairo, & Habenicht firm, with R. S. Roberts as a local associate; Mulvertson, who is associated with Chapman in some cases. Others having cases are C. O. Inman; Strubinger & Strubinger & ~~Sanderson~~; Murray & Edwards; Gerritzen & Gerritzen; Mart B. Eagleton; Blase; Herbert; Lich & Connor; and Hay & Flannigan.

The petition of one case which may be taken as an example charged almost everything which can happen to the lungs of a human being. The diseases or conditions charged were: Silicosis, Pneumoconiosis, Tuberculosis, Bronchitis, Paribronchitis, and Bronchicotosis. The suit was filed against the St. Joseph Lead, The Doe Run Lee, the Federal Lead, and the Bonne Terre Farm and Mattle Companies. The Charges were: failure to provide hoods, water pipes for drills, proper working clothes, medical examination, proper changing rooms, ventilation, air holes underground, notices of the danger of the industry, sprinkling of dusty material and men to clean the floors once per day. This case was filed in the Circuit Court of St. Francois County on January 10, 1934, and transferred to the Federal Court, St. Louis District, on June 11, 1934. To date there has been no decision on the case in the Federal Court. The representatives of the plaintiff are

John Burghaus; for the defendant are Watt & Gentry, Parkhurst Bleeth, Legal, Kirby Orrick, & Shepley.

These cases are all handled on a contingency fee basis, ranging from 33 1/3 % to 50% of the amount of the damages received. The plaintiff lawyers claim that the high fee is necessary because they must provide medical care for their clients during the time the trial is pending. So far we have found no instances where the client is receiving medical aid, paid for by his lawyer, but we have found at least one instance where such a thing should be done. In this case both the plaintiff doctors and the company doctors report a pathological condition which should have constant medical care. Neither will do anything about it until the case comes up for trial. In the meantime it is the client and ultimately the community which suffers.

The Lead Companies believe that they have won a victory in the decision that admission of candidates to the bar in the State of Missouri and disqualifying them for malpractice, is a function of the Supreme Court of Missouri rather than the legislative body. They believe that this will enable them to have a number of the plaintiff lawyers disbarred for unethical conduct in regard to the silicosis suits. There is no doubt that at least 75% of these cases in the Lead Belt have been run up or chased, rather than allowing the claimant to come to them seeking advice. "Weather or not ambulance chasing" is a charge of enough gravity to disbar a man is a question which the Supreme Court will have to decide. It is also a debatable question as to whether or not a wholesale attack on business is an ethical procedure.

Mr. Shepley, legal counsel for the St. Joseph Lead Company, and Mr. Malony, representative of the National Lead Company, both realize that there is a definite social problem in the Flat River District but state that there is nothing the companies can do about it until these cases have dragged through the procedure of court decision. Naturally they do not feel that they can do things for a community where their very existence is threatened by the damage suits. They state that there may be some silicosis in the district but it is very difficult to detect the just and the unjust cases. Even if they feel a case is just they cannot make it out of court settlement because this would only add ammunition to the guns of the lawyers on other suits pending.

The workers themselves will be the ultimate losers in this entire drama. If they lose their suits they will receive nothing, and besides, will never be able to get a job with another big corporation. Big business will certainly stick to it on such a wholesale attack as this one. If they win their suits the lawyers will retain a large portion of the damages, and the money won by the claimants will filter through their hands in much the same manner that the big wages they received in the past have done. At least one instance can be cited where the worker is planning to be treated by his lawyer's doctor when his suit is won. We are assured that the fees for this treatment will not be small. As long as the cases are in the courts we cannot expect men in the way of business recovery or renewed activity on the

part of the mines in the Lead Belt. It also seems possible that should a large number of cases be lost by the Companies it would be impossible for them to remain in business at all. In this case the one source of income for the Flat River District will be entirely eliminated, so we see that the workers are not looking far into the future when they allow themselves to be involved in such a matter. Perhaps some of the cases have merit but such an attack which may result in breaking the companies is a poor way to bring about better working conditions and better medical care for workers in the Lead Belt District.

Note: The following data includes a list of cases filed in the Circuit Court of St. Francois County, the Circuit Court of St. Louis, and the Federal Court, St. Louis District, against the St. Joseph and National Lead Companies, and the Metropolitan Life Insurance Cases in the St. Francois County Circuit Court. There are duplications showing how these cases have been filed, re-filed, and transferred from one court to another. This is one phase of the time consuming elements of damage suits in the courts.

LAW SUITS AGAINST THE METROPOLITAN LIFE COMPANY ON POLICIES.

Brookshire	J. D. Dalton	1/11/30
"	John P. Benoist	1/11/30
"	Don E. McClanahan	4/ 1/30
"	Lee Porter	10/7/30
"	Noah Kay	10/7/30
"	Charles Tinsley	10/7/30
Roberts	John T. Murray	4/1/31
Brookshire	John Reil	4/2/31
Roberts	Mrs. Wadlow	9/30/31
Brookshire	James Fingers	10/7/31
"	Elza Burgess	10/7/31
"	Joe Briley	10/7/31
"	James Nelson	10/7/31
"	John Thornton	10/7/31
"	Hesmer Young	10/7/31
Roberts	Gentry Freeman	2/4/31
Brookshire	Pleasant Keith	4/2/31
Roberts	John T. Murray	4/10/31
"	Gentry Freeman	6/18/31
Brookshire	Harman C. Christian	10/7/31
"	Wilfred Roderick	10/7/31
"	Otis Welker	10/7/31
"	W. T. Doughty	10/7/31
"	William Willis	10/7/31
Roberts	George Richardson	1/7/32
"	Minnie B. Wadlow	1/7/32
Brookshire	Norman E. Coleman	1/8/32
"	Dorsey Barnhouse	1/8/32
"	William Chittenden	1/8/32
Hay & Flannigan & Cullendine	Victor Krasky	3/7/32
"	Tine McClain	3/7/32
"	William P. Spradling	3/7/32
Brookshire	Elisha Wallen	4/8/32
Davos & Darron	Clarence Benson	10/11/32
Roberts	Sterling La Chance	10/13/32
Brookshire	Sidney M. Strickland	10/14/32
"	W. S. Soden	10/14/32
"	W.T. Jones	10/14/32
"	Frank Graf	10/27/32
"	John C. Spray	10/27/32
"	Rex Underwood	10/27/32
"	Fred Copher	10/27/32
"	Geo. A. McKinney	10/27/32
"	John Sales	10/27/32
"	Charles R. Moss	10/27/32

Metropolitan Life Policy Suits (Continued)

Wernstatter	Richard A. White	1/6/33
& Thelkeld		
"	Wayford Burns	1/6/33
Chapman, Davis	Richard Young	1/11/33
& Damroh		
"	Burt White	1/11/33
Brookshire	Leon Womack	1/13/33
"	Otis Walker	"
"	W. T. Harris	"
"	Charles Klease	"
"	Timon Faulkner	"
"	Joe Smay	"
"	Em. T. Boughy	"
"	Alfred M. Williams	"
"	Jesse P. Rhodes	"
"	John F. Ward	"
"	James Riley	"
"	David E. Todd	"
"	Wilburn Farmer	"
"	Eugene Williams	1/26/32
"	Alvin Orr	"
"	Charles Umfleet	"
"	Clarence H. Tulloch	"
"	Truman Tinker	"
"	Alfred Sapaw	"
"	Archie C. Richardson	"
"	Hugh Highley	"
"	Wm. H. Hiney	"
"	Alfred R. Foss	"
"	Roman R. Abney	"
"	James C. Clants	"
"	Glenwood Castile	"
"	Mary Huskey	4/7/33
"	Gladys Tatem &	
	Alma Tatem by Marvin Miller	4/11/33
Chapman	James Taxon	10/11/33
"	Paul C. Warren	"
"	Archaibo	"
"	John Smith	"
"	John Corcoran	"
"	Curtis Johnson	"
"	Clarence Anderson	10/12/33
"	R. S. Roberts	"
"	John McCoy	"
"	Joseph Tucker	"
Davis & Dannon	Lvis McMillan	10/11/33
Roberts	Robert Bradley	10/16/33
Brookshire	Fred Copher	1/10/34

Life Insurance Suits (Contd.)

Brookshire	Valvin T. Black	1/9/32
"	Frank Bouyon	"
"	William Vandiver	"
"	Josh Gerrell	"
Roberts	Sterling La Chance	4/7/32
Brookshire	John Hudson	4/7/32
"	Eugene F. Williams	8/11/32
C. Lee Fungor	Paul McCarron	11/11/32
Roberts	Robert Braddy	10/13/32
Brookshire	Odres Rodge s	10/14/32
"	Julius McCoy	10/14/32
"	Herbert Campbell	"
"	Owen T. Murray	10/27/32
"	Eugene Williams	"
"	Frank Cutherland	"
"	John T. Underwood	"
"	Phillip Jarrette	"
"	Doria E. Williams	"
"	John Meadows	"
"	Rolin Barton	"
"	Wesley Swearingin	"
Threlkeld	James L. Thompson	1/6/33
Chapman	Part Eyrington	1/11/33
"	Paul C. Warren	"
"	Tom Clinton	"
"	Clarence P. Anderson	"
"	Charles E. Cooper	"
"	Charles F. Barnes	"
"	John Waile	"
"	John McCoy	"
"	Curtis Johnson	"
Davis & Thomson	Alex Condrytoh	"
Davis & Thomson	Mark W. Gregory	4/12/33-change- of venue
Mathews	John Lunsless	5/22/33
Chapman	Lewis Clinton	10/11/33
"	Martin Alexander	"
"	George A. Brown	"
"	Alex Condrytoh	"
"	Charles F. Barnes	"
"	John Waile	"
"	Fred Stout	"
Roberts	Monte E. Coffman	4/12/34
Brookshire	George R. Vaughn	4/12/34
"	Clarence Calvert	"
"	David C. Underwood	"
"	Geo. W. Smith	"
"	Leuel B. Parks	"

SUITS AGAINST THE ST. JOSEPH LEAD COMPANY AND SUBSIDIARIES.

Brookshire	Sam Morris	1/11/30		
Inman &	Ernest L. Arnold			
Horsefield	(Legal Guardian)	6/12/30		
Cooney &	James R. Shelton			
Holland	(Infant) by Kenneth Tanner	8/25/30		
En M. Munger	M. Harty	2/4/31	Iron Mt.	
Roberts	Geo. G. Jackson	5/20/31	Desloge-	Appeal for compens.
Brookshire	Ottis McBride	10/7/31	Desloge	
Davis	Alpha May Grifford	12/11/31		appeal for comp.
Brookshire	Geo. McClary	5/19/32	Doe Run-	Comp.
"	Gus McMillan	9/26/32	"	"
Inman &	Otis Rodgers	10/28/32	St/ Joe-Doe Run-Federal-	
Hulvertson				damages
Mathews	Earl M. Pemberton	12/17/30	Doe Run-	Comp.
"	Charles H. Hudson	10/19/31	"	"
Brookshire	Henry Chittenden	12/18/31	"	"
Hulvertson	Wm. Montgomery	8/19/33	St. Joe-Doe Run-	damages
Fenn &	Pleasant G. Keith	11/7/33	St/ Joe-Doe Run-	damages
Burghouse				
"	William Ira Lincoln	12/9/33	Federal-B. T. F&C-	
"			damages St. Joep Doe Run	
"	John Buff	12/13/33	St. Joe-Doe R.- Federal-	
"			LaMotte-damage	
"	Joe L. Deremo	2/10/34	St. J- D.R.-Fed.-Ref.F&C.-dam.	
"	Jacob C. Hovis	"	"	"
Victor Feay	John Williams	3.31/34	Bee R.-	appeal from J.P. Court
Hulvertson	Charles Fortner	4/5/34	St.J.-D.R.-Fed.-	Damages
"	Geo. W. Henderson	"	"	LaMotte-"
"	Marion Enlaw	"	"	Desloge
"	Betty Jane Reed	"	"	D. R.
"	Martin Alexander	"	"	"
"	Lee Dix	"	"	"
"	Jeff Turnbaugh	"	"	"
"	W. H. Heiney	"	"	"
"	Steve Pashia	"	"	"
"	Wilburn Earner-	"	"	"
"	Lewis Reeg	"	"	"
"	W. Henry Brown	"	"	"
"	Charles Koch	"	"	"
"	James Woods	"	"	"
"	Ernest Tripp	"	"	LaMotte
"	Henry Wishon	1/10/34	"	D. R.- Fed/.
"	William Barber	"	"	"
"	Geo. W. Henderson	"	"	LaMotte
"	Ernest Tripp	"	"	"
"	Ben Luchance	"	"	"
"	Moses Sebastian	"	"	D. R.
"	Jane Wood	"	"	"
"	Wm. Henry Brown	"	"	"

ST. JOE PRIS (CONT'D)

Hulvertson	Mary Moore	St. Joe	Damages	1/10/34
"	Gertrude Dix	D. R.	"	"
"	Arden Frye	"	"	"
"	William H Gamblin	"	"	"
"	R. L. Roberts	"	"	"
"	Joe Lachance	"	"	"
"	Jeff Turnbaugh	"	"	"
"	Sena Ross	"	"	"
Fenn & Burghaus	Jesse L. Boring	"	"	"
"	Ben Sale	"	"	"
"	Charles A. Belcore	"	"	"
"	Glenwood Langley	"	"	"
"	Felix Campbell	"	"	"
"	C. L. Hillman	"	"	"
"	Marion Rhodes	"	"	"
"	Ben La. Chance	"	"	"
"	Joe La Chance	"	"	"
"	R. L. Roberts	"	"	"
"	Arden Frye	"	"	"
"	Wm. E. Gamblin	"	"	"
Foristel, Wadd				
Elaine, Hebenicht, Roy Dickson				
& Roberts	Henry R. Engleman	"	"	"
	Jess Elders	"	"	"
	Wm. Vandiver	"	"	4/10/34
	Wiley Withison	"	"	"
	David C. Underwood	"	"	"
	Joe Briley	"	"	4/11/34
	Henry White den	"	"	"
Brookshire &				
Elaine, Hebenicht, Roy Dickson		"	"	"
Strubinger &				
Strubinger	William C. Finkle	"	"	4/13/34
"	Joe Martin	"	"	5/24/34
Warbury	John H. Edgar	"	"	"
Phillips & Phillips				
Tedrich, Green,	Geo. W. Negal	"	"	5/29/34
Henry & Benmers				
C. C. Homan	Herbert Logan	"	"	7/13/34

Suits Against the National Lead & St. L. S. & R.

Brookshire	Claude Christian	10/7/31	policy
"	"	1/8/32	"
"	Winet Garden	10/10/32	"
Chapman			
Hulvertson	Otis W. Rodgers	10/28/32	damages
Brookshire	Otis McEride	10/7/31	policy
Richardson &			
Richardson	Andre Davis	2/4/31	"
Roberts	Steve Rose	1/7/33	"
Taylor Smith	Alvin W. Whitebread	1/10/33	"
Chapman	James Fingers	3/30/33	Motion on Policy
"	Virgil O. Gregor	4/3/33	Policy
"	Edward Tillman	"	"
Roberts	Clarence Luster	9/27/33	"
Fenn &			
Burgess	Wm. F. Parker	7/10/34	damages
	Willis W. Thurman		
Foristel, Russ			
Elshire, Habenicht,			
& Roberts	Ben La Plant	4/10/34	"
"	Walter E. Wells	"	"
Brookshire -	Poney Reed	4/8/33	"
Marbur	John W. Aldridge	9/27/33	Civil Motion 1
			in 24591-350
"	L. W. Bunte	9/27/33	Civil Motion
			in 24591-350

CLERKS IN THE ST. LOUIS CIRCUIT COURT
DEFENDENTS T. JOE LEAD CO.

203521	Geo. W. Nagel
198926	Joseph A. Williams
198926	Calvin S. Black
195395	John Link
198302	James Hulsey
195225	Joseph E. Lawson
194857	And Yount
194860	Henry Cloeman
194916	Herbert Campbell
194411	Joseph F. Portell
194412	Earl C. Albright
192479	Andrew J. Fulkerson
83	Otis Ferrel
84	William T. Doty
85	Fred Copher
86	Fred Duncan
87	Olsie Lupy
89	Geo. A. McKinney
90	William O. Wren
91	Harvey Briley
192136	Moses Sebastian
37	Steve Pashie
23	Roy Hughes
19260	Mary D. Moore
61	Gertrude Dix
62-	Ernest Tripp
63	Joe Lachance
192049	Virgil Cross
190435	Martin Alexander
36	William Henry Brown
37	William Montgomery
38	Lena Doss
190277	Fred Highley
78	James Woods
79	James Brook
80	Edward Paul Leonard
81	Henry Wilson
82	William Burns
83	William H. Gamblin
84	Jesse Turnbeaugh
85	William Cortes
190405	Lee Asher
06	Ben Lachance
07	Dan Whittier
08	Arden Fry
09	Geo. W. Henderson
10	R. L. Roberts
11	Kick Mason
12	William Tripp
189956	Larkin Moore
188033	Chas. Fartner
22	Lee Dix

LISTS IN THE ST. LOUIS CIRCUIT COURT
DEFENDENTS NAT'L L. & CO.

194055	Benjamin pierce
56	Joseph Bayless
57	James Ransom
58	Dolth Marshall
192526	Glen Gibson
27	Jodie Howell
28	Howard McClanahan
30	Frank Kerr
31	James McCoy
32	Alex William Howell
192413	William V. Shannon
192244	Garson Pryor
192304	Walter Shannon
192175	John W. Aldbridge
76	John Motley
77	Frank Adams
78	Elbert McBride
79	Chas. Wilson
80	Marion Kimberlin
81	W. H. Hilman
82	Nikel Sales
83	John Seel
192140	William Rubottom
41	William Bequette
42	Chas. A. Bayless
192063	Albert Derbin
69	C. E. Black
70	Roy Metosife
71	Oscar Nash
72	Oscar Loida
195138	William A. Henroid
89	Lee Eaves
90	Henry C. Coll
91	James T. Bannister
92	George G. Swearington
195225	Joseph T. Larson
26	Kossuth Van Sickle
27	Walter Cunningham
195089	Elliot C. Louis
30	Paul Stephens
91	John M. Hobaugh
92	Joseph Knell
93	Jasper Thomas
94	Thomas Blings
95	Sidney Leigh
96	Orville Albert
97	Nick Paraskevak
98	Joe Redfern
194507	William A. Bates
194413	Archie A. Setzer
194200	John M. Stotler

TABLE LIST WHITE (CONTINUED)

194201	Raymond Kerman
02	Oscar Henry
03	Jesse Jones
203357	Alexander Thowure
58	W. W. Decker
59	John Golder
203146	Barney W. Linton
47	Solomon Cleveland Smith
43	Elisha Lawson
110716	Alan K. Nabucc
40	Joe Richardson
41	Wilbur Skaggs
42	Geo. Rice
43	Vincent N. Mattinger
44	Robert E. Motley
45	Edward Gemblin
200880	Elmer H. Ennor
81	Harrison Martin Wheeler
82	Leonard Jackson
83	Oscar Forwine Good
34	Edward T. Wanack
85	Willard Walter Lawson
86	Henry E. Hutchins
87	Simon Dalton
88	Lesley Gordon
89	Clarence Bannister
90	Edward L. Bannister
91	Robert Shelley
92	Harry M. Rudy
93	John Childers
94	Henry M. Gordon
201119	Andre B. Williams
201119	Joseph Sinsc
200367	Geo. Rennie
199037	John A. McHelly
198272	John A. Link
03	Frances Furt
04	Omar Stewart
06	Lewis Nicholson
197608	Frank Asher
02	M. H. Derbin
197484	Frieda Downs
197246	Geo. W. Sante
195733	Lewis E. Mead
34	Lewis Vandiver
35	Chas. Phares
36	Bert Lebruyere
37	Albert White
33	Francis Winston
194329	Michael Lacy
30	Eli Bullen
195135	Donald J. Nash
36	John W. Murray
37	Malvin McHenry

PAID L.A. VHS (CONTINUED)

192073	Daniel E. Wright
74	Paul Petty
190818	Lloyd Fahnstock
10	William Dickson
20	Edward B. Williams
21	Willard S. Stevens
22	Willard L. Guitart
23	Frances Wann
24	Thomas Wann
197014	Pierce L. Hutchins
15	James C. Mitchell
190548	Alanzo
23	Fred B. Hamblin
190277	Fred Tighley
189956	Larkin Moore
138623	Chas. Partner
22	Lee Dix
204617	Alex Touch
138711	Edward Tillman
12	Gland Dix
13	Carson Pryor
192067	James Lands
191837	Elizabeth Furt
192142	H. C. Bollinger
193063	John Boatwright
64	Frances S. Lindsey
193895	Sam Sapensky
96	Nicolas Pochlyko
97	H. B. Muntz
98	T. J. Byington
99	T. M. McCleese
193839	Chas. E. Hill
40	Rustie Nichols
41	George Tiefenauer
1.5014	Fred Sirolun
15	Thomas Ignow
202542	Hal E. Burlbau

CASES AGAINST THE NATIONAL SEAM COMPANY IN THE
ST. LOUIS FEDERAL COURT.

10393-	Lich & Connor-	L. Grover Edgar-	3/4/33- T 7/3/33-	demure submitted
			1/7/34-	demure to submitted
10394-	do	Wilse Pryor	3/4/33- T	not at issue
10395-	do	Alfred Neal	3/4/33- T	do
10396-	Garritzen & Gerritzen	James M. Gardner	3/4/33- T	not at issue
10397-	do	Lina Legrand	3/4/33- T 3/4/34-	not at issue
			3/5/34-	Motion to strike submitted
10399-	Hulvertson	Geo. W. Bayless	3/4/33- T 3/4/34-	Not at issue
10400-	Foristel	James C. Mitchell	3/4/33- T 3/4/34-	not at issue
10466-	Gerritzen & Gerritzen	Paul Davis	7/6/33- T 7/6/33-	do 10397
			9/11/33-	demure etc. submitted
				not at issue
10467-	Fenn	Alexander W. Powell	do	
10468-	"	Frank Kerr	do	
10469	"	John Seel	do	
10470-	"	Mikel Sales	7/6/33- do 7/6/33-	do 10397
				not at issue
10471	Inman	Marvin Bequette	do	
10472-	Strubinger & Strubinger	Glen Gibson	do do	
10473-	Inman	Charles Lee	do	
10474-	"	Archie Easter	do	
10475	"	Ralph Nash	do	
10476-	Foristel	Pierce Hutchins	do	
10477-	Inman	Ira Martin	do	
10478-	Fenn	Francis Wann	do	
10479-	Inman	Geo. Lawson	do	
10480-	Murray & Edwards	Elizabeth Hurt	do	
10481-	Gerritzen & Gerritzen	James Staples	do	
10482-	"	Alexander Gardner	do	
10515-	Hulvertson	Fred Highley	8/23/33-p	Petition filed summons issued for defendant. returnable 9/12/33 9/11/3 - demure filed. not at issue
10526-	"	Smith Hamby	8/23/33-p	do 3/5/34-demure submitted
10605	Blase	Ely Pullen	10/12/33- T	do 10441
			3/5/34-	demure submitted
10606	Lich & Connor	Raymond Kerman	10/12/33-	do 10441
			2/9/34-	motion to strike file
10607-	Blase	Walter Cunningham	10/12/33-	do 10441
10608-	Lich & Connor	Jesse Jones	Do	
10609-	"	Doff Marshall	do	

2. NATIONAL LEAD

10610	Leich & Connor	John W. Stotler	do	10441
10611	"	Oscar Henry	do	
10612	"	Benjamin Pierce	do	
10613	"	Joseph W. Bayless	do	
10614	Blase	Archie Setser	do	
10615	"	Wesmith T. Van Cinkle	do	
10616	Leich & Connor	James Ramson	do	
10617	Blase	Charles F. Hill	do	
10618	"	Rastus Nicholson	do	
10619	"	Geo. Tiefenauer	do	
10620	"	Michael Lacey	do	
10661	Fenn	Francis Earl Lindsey	11/27/33- T	do 10441
10662	"	William A. Guitaf	do	
10663	"	Cloid Fahnstock	do	
10797	Blase	Francis Hurt	3/8/34- T	do 10441
10798	Fenn	John A. McKelly	3/8/34- T	do
10843	Hulvertson	H. G. Bollinger	4/17/34-	do
10844	"	Albert Durbin	do	
10845	"	Oscar Loida	do	
10846	"	C. R. Plack	do	
10876	Fenn	Robert D. Motley	5/3/34	do
10877	"	Walter M. Watson	do	
10878	"	Andrew B. Williams	do	
10879	"	Wilbur Seabergs	do	
10880	"	Joe Richardson	do	
10881	"	George Rice	do	
10882	"	Vincent J. Mattingly	do	
10883	"	Edward Gamblin	do	
10894	Elgleston	Thomas Deck	5/12/34-	do
10895	Fenn	William Parker	6/12/34	from Circuit Court of St. Francis County
10893	Hulvertson	Willis L. Thurman	do	do
10899	"	Homer E. h	6/16/34	do 10441
10898	Gerritzen & Gerritzen	Lina LeGrand	7/3/34	do
10898	Hulvertson	Jesse Lunde	7/14/34	do

MADE IN THE ST. LOUIS FEDERAL COURT
DEPENDENT AT JOE LEAD CO.

10095-	Foristel, Ralph Duran	9/20/32-p	Not at issue
	& Co.		
10111	"	Clarence Porter 9/29/32-p	3/7/31- Motion to strike file
10112	"	Leslie A. Robinson 9/29/32-p-	1/20/34- Motion to strike
			sustained in part overruled in part
			2/20/34- Plaintiff granted 20 more days to plea
10114	"	Irvin L. Mitchell 9/29/32-p	3/7/33- Do above
10118	"	Henry Queen 9/30/32-p	3/7/33- Do above
10119	"	Jule LaRosa 9/30/32-p	3/7/33- Motion to strike fi
			2/20/34- Plaintiff granted 20 more days to plea
10120	"	Frank Glade 9/30/32-p	3/7/33- Motion to strike fi
			2/14/34- Granted 20 add. da
10121	"	Sam Hayes 9/30/32-p	3/7/33- Motion to strike fi
			2/20/34- Granted 20 add. Da
10183	Part 2		
	Eggleston Christopher Haulsey	11/20/32-p	9/11/33- Amended petition f
			2/14/34- Answer filed
10200	"	John Compton 12/15/32-p	9/11/33- Amended pet filed
			3/5/34- Motion to make de-
			fault submit ted
10243	"	James R. Hulbert 1/13/33-p	9/11/33-Amended pet filed
			3/5/34-Motion to default sub
10256	Hay & Flannigan- Dallas Harris	2/3/33-p	9/21/33-Motion to strike su
10268	Hulvertson Dan Whittier	4/28/33-p	6/27/33- Plea of St. Jo
			to Jurisdiction sustained
			7/5/33-Plea to jur. and
			demure sustained
10440	Herbert- Virgil Cross	6/28/33-	6/28/33- Transcri t of reco
			on removal from Circuit Cou
			St. L. filed by defendant
			1/22/34- Plea to jur.
			sustained
10442-	Hulvertson- Gertrude Dix	6/28/33-p	Do 10441
10445	Herbert Ray Hughes	6/28/33-p	6/28/33 Do
			12/4/33- Plea to jur.sustai
			Plea to jur.of St. Jo. Lead
10493	Inman James E. Moore	7/22/33-p	7/22/33-Pet filed-summons
			issued for def.- Return 12
			8/11/33- Demure pending
10494	Inman	--J-463-	
	Clarence Burden	7/12/33-p	7/23/33- Not at issue
10511	Hulvertson Moses Sebastian	8/14/33-p	8/14/33-Not at issue
10512	" William Burns	8/14/33-p	Do

66 St. Joe Cases in Federal Court

10525-Hulvertson	Fred H. Wiley	12/6/33-T	St. Francois Co. filed by def.
10677-Inman	John W. Church	12/6/33	do
10802-Hulvertson	Lena Ross	3/19/34	do
10804 "	Al Linn Carter	3/19/34	do
10805 "	Mark Moore	3/9/34	do
10838 Penn & Burghans	John Ruff	4/16/34	do
10839 "	William Ira Lincoln	4/16/34	do
10840 "	Pleasant G. Keith	4/16/34	do
10841 "	Henry Schwent	do	
10925-Hulvertson	Martin Alexander	6/11/34	do
10926 "	William Henry Brown	do	
10927 "	Charles Crook	6/11/34	do
10928 "	Marion Enlow	do	
10929 "	Silbur Farmer	do	
10931 "	W. E. Hiney	do	
10932 "	Geo. W. Henderson	do	
10933 "	Ben La Thance	do	
10934 "	Steve Pashia	do	
10935 "	Betty Jane Reed	do	
10936 "	Ernest Tripp	do	
10937 "	Jeff Turnbough	do	
10938 "	James Woods	do	
10939 Penn	Jess L. Borsing	do	
10940 "	Felix Campbell	do	
10941 "	Charles A. Delcours	do	
10942 "	Joe Darano	do	
10943 "	L. W. William	do	
10944 "	J. C. Tavis	do	
10945 "	Clerwood Langley	do	
10946 "	Wm F. Ragsdale	do	
10947 "	Marion Rose	do	
10948 "	Benjamin Dale	do	
10949 "	Bert White	do	
10950 Edw rds & Supple	Brooks & Geo. Cikes	do	

CASES SETTLED BY ST. JOE LEAD COMPANY

10382 Hulvertson-	William Trip	4/23/33- do	10368- Ton removal- 9/2/33-sett. (dismissed by plai. tiff without prejudice. Cost paid by plaintiff)
10447- Hulvertson	Steve Pashia	6/28/33-T- 1/22/34 plea to jurisdiction sustained. 3/13/34- settled. Remanded do 10382	
10669 "	William Montgomery	12/6/33-T from St. Francois Co. 2/14/34-Settled. Remanded to state court cost paid by defendant in Circuit Court of St. Francois Co.	
10301 "	Henry Fishon	6/9/34-T from St. F. Co. 6/27/34- Settled. Do 10669	
10803 "	Ypsas Sebastian	3/9/34-T from St. F. Co. 6/27/34- Settled. do 1066	

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3. N.Y. , D. Appleton and Co. V. 5pp. 772,75--1920

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2. The Health of Workers in Dusty Trades, Washington,
U. S. Gov't Printing Office
3. Bulletin of U. S. Bureau of Labor Statistics, no. 511
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and Commissions
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4. U. S. Bureau of Mines Bulletins
 - a. Sayers, R. R. , Meriwether, F. V., Lanza, A. H.
"Silicosis and Tuberculosis Among Miners of
the Tri-State District of Oklahoma, Kansas and
Missouri--11,"for year ended June 1929, Tech.
paper 551, 1933 , 28 pages.
 - b. Sayers, R. R. "Physiological Factors of Mine
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 - c. Sayers, R. R. "Effect of Abnormal Air Condition
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 - f. Harrington, D. "Dust and Health of Miners",
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 - g. Harrington, D "Occupational Diseases os Sili-
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"Status of Silicosis"
3. American Journal of Public Health, April '30
"The Effect of Dust on the Lungs"
4. Business Week, Sept. 2, 1933, "Silicosis Menace"
5. American Journal of Public Health, Oct. '32
"Observations and Studies on Silicosis by Diatomaceous Silica"
6. Industrial Hygiene Magazine, "The Roentgenological Aspects of Pneumoconiosis and its Medico-Legal Importance."
7. Labor Review, Nov. 1928, "Legislation in Occupational Diseases in Bolivia"
8. Labor Review, July 1929, "Silicosis Among Rock Dwellers, Blasters and Excavators in N. Yn City"
9. Literary Digest, March 10, 1934;
10. Scientific American, 145: 252-3, Oct. '31, "Taming A Deadly Occupational Disease"

IV.

Newspaper Articles:

- I. St. Louis Post-Dispatch, April 21, 1934, p. 5a.
"Lawyer Tells How Silicosis Suits Developed here After Friend Died of Disease."

V. Pamphlets:

- I. Metropolitan Life Insurance Co.
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