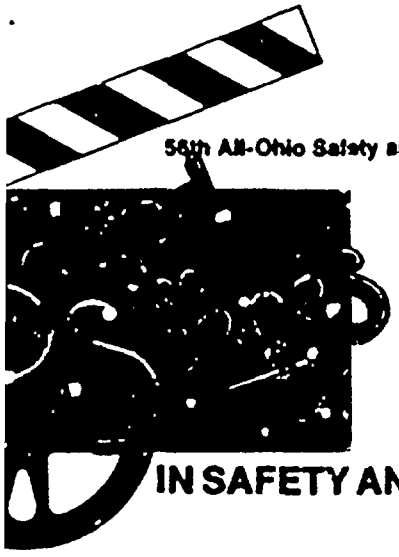
PLAINTIFF'S
EXHIBIT
BRK-51



IN SAFETY AND HEALTH

February 25, 1986

Legal Section
Industrial Commission of Ohio
246 North High Street
Columbus, Ohio 43215

RE: OD 24357-22
Richard Charlton
U.S. Steel Corp.
Lorain, Ohio

Attention: Ms. Judy Spencer

Dear Ms. Spencer,

Per a telephone conversation, on February 13, 1986, contact was made with officials at the U.S. Steel Corporation (Pittsburgh), in an effort to determine whether the claimant's occupational exposures could have contributed, aggravated, and/or caused his medically diagnosed condition. The claimant has been diagnosed as having: 1) Chronic obstructive pulmonary disease (COPD). 2) Chronic bronchitis; acute exacerbation-hemoptysis. 3) Positive PPD skin test.

The claimant originally worked at the McDonald, Ohio facility of U.S. Steel Corp. When the plant was closed down in March of 1981, the claimant was transfered to the Lorain, Ohio facility, where he completed his tenure at U.S. Steel. The following account of the claimant's work history at U.S. Steel was extrapolated from medical records located at the Pittsburgh corporate offices:

Hired	- 1953 -	Laborer	- Slag Dept.
	1961 -	Truck Driver	- Slag Dept.
	1976 -	Laborer	- Slag Dept.
	1977 -	Truck Driver	- Slag Dept.
	1981 -	McDonald plant closes, claimant goes to Lorain.	- Blast Furnace Oper.
	1982 -	Layedoff	
	1983 -	Retired	

2

n summary, the claimant worked approximately 24 years in he "Slag Dept." of the McDonald plant and 1 year as a Blast Furnace Oper." at the Lorain facility.

Slag is a complex mixture of side products, and consists of wastes resulting from the smelting of metals and alloys. After hardening, it assumes a stony or glassy appearance and is characterized by its relatively low specific gravity (generally 2 to 4). Slag is formed from the dirt of ores and their concentrates, from fluxes added in smelting operations, from substances formed by the corrosion of the refractory lining of smelting furnaces, and from fly ash.

The processing of slag entails a number of operations which are fraught with health hazards. Slag in the molten state is a source of intense heat, infrared radiation, and gases (sulfur dioxide and carbon monoxide). Slag in the solid state is capable of producing a considerable amount of dust; this is liable to arise in particular during crushing, transport and packaging, as well as during the grinding of facing slabs and the production of mineral wool.

The dust formed by basic slag has irritant properties varying in intensity according to the amount of free alkali contained in it. Bessemer converted slag has the most pronounced pathogenic effect. It can cause sever pneumonia, accompanied by spasmodic coughing fits and not infrequently by haemoptysis, dyspnoea, prostration, fainting, and albuminuria. Prospects of recovery are poor, and 50% of cases are fatal. Excessive fatigue, alcoholism and infectious diseases are predisposing factors for the development of such pneumonia. Moderate pneumoconiosis, which is fairly frequently observed amoung workers exposed to the effects of slag dust, is also regarded by some specialists as a further predisposing factor. (1)

It was noted from a past medical history report dated 3-27-85, contained in the facsimile file, that the claimant had pneumonia approximately nine years prior. The claimant apparently came down with pneumonia in 1976 during the latter part of his tenure in the "Slag" department at the McDonald plant.

It is impossible to assess the exact work conditions experienced by the claimant at the McDonald Steel Works facility, because it is no longer in operation. This is unfortunate, due to the fact that approximately 24 years of the claimant's working life was spent at the McDonald facility. It is obvious that the exposures experienced there, would be "most" significant in attempting to determine a causal relationship. The exposures experienced at the Lorain facility, because they occured in the latter part of the claimant's work history, are not highly

significant in regard to their overall contribution to the "chronic" diability experienced by the claimant.

The characteristic pathological features of bronchitis were first described by Reid and consist of an increase in the mucus-secreting glands of the airways. In the human it is the mucous secreting glands of the large airways that are mostly responsible for mucous secretion and that are predominantly involved in bronchitis. It is now clear that mucous gland hypertrophy occurs as a result of any chronic irritant effect on the airways and that cigarette smoke, dust, and air pollutants, such as sulfur dioxide, ozone, and ammonia, not to mention particulate matter, can all act as the inciting factor. The heavier and the longer the period of exposure, the greater the likelihood of developing bronchitis. In trying to study the effects and frequency of bronchitis in a working population, it becomes evident that there are two important confounding factors, namely, cigarette smoking and age. In smokers, cigarette smoking completely overshadows the effects of dust and air pollutants.

Numerous investigations have shown that the continued inhalation of dust leads to the development of bronchitis as manifested by chronic cough and sputum. Over the past several years a definite relationship between the prevalence of these symptoms and the level of dust exposure has been demonstrated both in coal miners and in South African gold miners. It becoms difficult, however, to separate the effects of cigarette smoking and dust in cigarette smokers, since the effects of smoking overwhelm those of dust. For the most part it is possible to detect the consequences of dust exposure only in nonsmokers, although in some studies cigarette smoking and dust appear to have had a synergistic effect. (2)

It is important to note, according to medical records at the Pittsbugh facility, that the claimant smoked cigarettes for approximately 28 years. An evaluation form filled out by the claimant references the fact that he started smoking at the age of 19 years (1953) and quite in December of 1981. The form further states that the claimant smoked on the average one half a pack of cigarettes per day.

By far the most potent factor, though not the only one, causing chronic bronchitis, is cigarette smoking.

There is suprisingly modest support for the concept that industrial dust or irritating fumes play a role in the development or aggravation of chronic bronchitis or emphysema. It is difficult to accept the belief that no role is played by these agents, particularly with respect to place of residence, medical care, and so on, and general air pollution overshadow any demonstrable strong influence of

industrial dust, fumes, or gases. In studies in which these other factors are corrected for, there is some suggestion that occupational dust per se may contribute to chronic bronchitis, even though it is not the most potent factor.(3)

Every detailed investigation of the symptoms of chronic bronchitis and some on the emphysematous lung have brought to light the harmful effect of smoking cigarettes. A graded relationship between the intensity of smoking and the prevalence of disease has been observed.

Although occupation makes a contribution to the initiatlion, progression, and outcome of chronic bronchitis, its contribution is very small compared to the effects of smoking. (4)

Chronic bronchitis may occur after repeated exposure to chemical irritants. Usually, however, the underlying cause is cigarette smoking. (5)

In summary, the claimant worked approximately 24 years at the McDonald Steel Works facility, primarily in the"Slag" department. The claimant was known to have had pneumonia, which is a potential result of slag dust exposure. It is well documented that long term inhalation of dusts can cause chronic bronchitis (a type of chronic obstructive pulmonary disease - COPD) with cough and sputum production similar to what the claimant is experiencing. The causal relationship, however, is complicated with the claimant's relatively long history of cigarette smoking, which is well known for its contribution in the development of chronic bronchitis. The claimant's occupational dust exposures could have contributed to the development of chronic bronchitis, however, his history of cigarette smoking, as referenced amoung many literary sources, would appear to be the most potent contibuting factor. The existance of a cause-effet relationship between the claimant's occupational exposures and his medical disability is questionable.

Respectfully submitted,

Marc L. Corbett
Industrial Hygienist

5

REFERENCES

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5. Chemical Hazards of the Workplace, N.H. Proctor, Ph.D., J.P. Hughes, M.D., J.P. Lippincott Company, 1978, p. 74.

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