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I. INTRODUCTION

This firm has previously supplied you with documentation on 747 clients suffering from asbestos-related disease (ARD) as a result of their exposure to asbestos fibers in Lincoln

County, Montana (Libby Claimants). While living in Lincoln County, each Libby Claimant was regularly exposed to airborne Libby Amphibole Asbestos (LAA) fibers generated by BNSF¹ activities involving the vermiculite ore mined near Libby. BNSF's actions and inactions are a substantial factor in causing the Libby Claimants' ARD. Our proof at trial will demonstrate that BNSF's activities in Lincoln County resulted in extensive contamination of the area with highly toxic LAA. Set forth below is a summary of the factual and legal bases for our claims. This summary includes reference to the record demonstrating 1) BNSF's early knowledge that the vermiculite ore they brought into Libby contained highly toxic LAA, 2) BNSF's long standing knowledge of the hazards presented by asbestos exposure and concurrent standards of care, 3) BNSF's extensive involvement in the vermiculite operations in Lincoln County, and 4) that BNSF took no action to meet applicable standards of care. We conclude with a summary of relevant Montana law imposing liability on BNSF, and a review of medical issues particular to Libby ARD. References to the record and supporting materials have been electronically hyperlinked for ease of review.

II. FACTUAL BACKGROUND

A. BNSF Knowledge of Libby Asbestos.

BNSF knowledge of the presence of asbestos in the vermiculite ore on Vermiculite Mountain near Libby is demonstrated in relevant literature, publications and BNSF company documents by the 1920s.

BNSF analyses of Libby Ore and support of geologic studies: By 1925, BNSF was one of the first entities to perform a geo-chemical analysis of the Libby Ore. See 11/1/1925 Zonolite Publication - GNRR chemical geological analysis of Libby Ore, p. 4; 1926 Publication summarizing early GNRR chemical/geological analysis of the Libby Ore, p. 2.² Over the ensuing years, BNSF showed a continued interest in the economic potential of the Libby Ore and development of the resource. Among other things, BNSF issued reports on the vermiculite operations prepared by its Division of Economic Research, sampled/tested the ore several times, and visited the mine site on multiple occasions.

The corporate records of the GNRR, held and maintained by the Minnesota Historical Society, contain various documents demonstrating BNSF's early knowledge of the presence of asbestos in the vermiculite mined in Lincoln County as well as a great interest in the economic development of the Libby vermiculite mine. Correspondence beginning in early 1929 between G.R. Martin, Vice President of the GNRR and others demonstrates this interest and knowledge. See 4/6/1929 Letter from A.B. Ashby to Mr. Martin, 4/29/1929 Letter from Mr. Kenney to Mr. Martin and 5/13/1929 Letter and attachments from Mr. J.T. Pardee to GNRR's President regarding Bulletin 805-B. The noted geologist J.T. Pardee provided GNRR with the study

¹ Through acquisition, merger and/or re-organization, the Burlington Northern Santa Fe Railway is the successor to the Great Northern Railroad, the Burlington Northern Railroad, the Santa Fe Pacific Railroad, and each of their respective predecessor railways, collectively hereafter referred to as "BNSF."

² Numerous published geologic studies of the material on Vermiculite Mountain beginning in the 1920s revealed the presence of tremolite asbestos in the vermiculite. *Pardee and Larsen* (1925, 1926, 1929); *Kreigel* (1940); *Perry* (1948); *Johns* (1959); *Bassett* (1959); *Peck* (1960); *Weeks* (1981).

entitled "Deposits of Vermiculite and other Minerals in the Rainy Creek District near Libby, Montana" (Bulletin 805-B (1929)) which provides as follows:

The deposits described are in an easily accessible area about 7 miles northeast of Libby Mont. . . . About two-thirds of the stock consists of a coarse-grained pyroxenite that ranges from nearly unmixed pyroxene to nearly unmixed biotite or its alteration product vermiculite. ***

The principal minerals thus produced are white mica, aegirite and aegirite-diopside (both locally vandiferous), vermiculite, and fibrous amphiboles... A large body of the vermiculite is being developed commercially by Zonolite Co. In addition several smaller bodies are being explored by the Vermiculite & Asbestos Co., and in some of these bodies the mineral makes up from 30 to 84 per cent of the pyroxenite country rock. Vermiculite is comparatively new to commerce...

On the spur north of Kearney Creek much of the pyroxene of the large pyroxenite body has been altered to amphibole of a fibrous habit that is known commercially as amphibole asbestos. ***

The GNRR approaches within 2 miles, but it lies on the opposite bank of the river. A few miles below Rainy Creek, however, a logging railroad crosses to the north bank. ***

Locally the pyroxene (diopside) of the large pyroxenite mass has been changed by hydrothermal metamorphism to an amphibole of fibrous habit, related to tremolite.

In the Rainy Creek district in Montana the workings of the Vermiculite & Asbestos Co. expose several bodies of amphibole asbestos which are of dike-like or tabular form and of different widths. The largest, as exposed by open cuts, appears to be 100 feet or more long and from a few feet to 14 feet wide. A body 4 feet or more wide exposed in the face of a tunnel at a depth of 150 feet or more may be the downward continuation of the same deposit. Several smaller bodies are exposed in other workings...

As commonly understood, the term asbestos embraces the fibrous varieties of several minerals, including anthophyllite, tremolite, actinolite, and crocidolite, which belong to the amphibole group, and chrysotile, a variety of serpentine. ***

For a few inches on both sides of the veins the pyroxene of the wall rock is changed to a fibrous amphibole related to actinolite and glaucophane.

Plate 1 of the report is a geologic map of the Rainy Creek district which shows the Zonolite and Vermiculite & Asbestos Co. developments located immediately adjacent to each other, on top of vermiculite mountain, and directly over the pyroxenite (vermiculite) deposit, referenced above as being associated with, and having been altered to, amphibole asbestos. The map also shows the GNRR running in close proximity to the deposits.

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The Rainy Creek stock is west of the Kootenai River about 8 miles northeast of Libby. This large complex stock of pyroxenite and syenite underlies part of the valley of Rainy Creek and extends east beneath Vermiculite Mountain. ***

Pyroxenite within the Zonolite pit is light gray to yellowish-green coarse-grained friable rock composed of vermiculite, aegirite, aegiritediopside, soft fibrous tremolite, apatite, magnetite, garnet, biotite, and hydrobiotite...

Tremolite (amphibole asbestos) forms at the expense of pyroxenite in altered zones bordering syenite apophyses and quartz veins that cut the pyroxenite mass (Boettcher, 1963). ***

Bordering the syenite apophysis and related syenite dikes in the pyroxenite are alteration halos of tremolite after pyroxenite, which are of potential economic importance as a source of brittle asbestos. ***

The Rainy Creek pluton has many minerals of potential value, besides the vermiculite, which is being marketed at present. Amphibole asbestos (tremolite) ... may be profitable byproducts if separation can be achieved economically and if markets can be developed for these minerals.

An August 30, 1963 letter from Alva J. Haley of GNRR's "Mineral Research and Development Department" to J.A. Kelly, president of Zonolite, discusses GNRR's visit to the Zonolite headquarters and apparent intent to engage in a cooperative business endeavor involving the agricultural application of Zonolite's vermiculite ore. The letter calls for "investigation" and "testing" of samples of the mineral deposit. See 8/30/1963 GNRR correspondence.⁴ In 1976, BNSF's geology department visited the W.R. Grace mine. An August 20, 1976, letter from Ronald Seavoy of BNSF to Ray Kujawa of W.R. Grace provides:

Dear Ray,

Fred and I had a very delightful and informative time during your guided tour of the Zonolite Mine. Thank you very much for taking the time to show us the geology and allow us to collect specimens.

I was particularly interested in vermiculite, having worked for Johns-Manville exploring for asbestos and knowing more than most geologists about industrial minerals. ...

The thing that clearly indicated the low temperature of formation was the way the very large crystals of pyroxene (enstatite?) were partially altered to tremolite-talc rock. ...

News Publications: By the mid-1920s two companies had been established to exploit the comingled vermiculite and asbestos resource on outside of Libby, the Zonolite Company and the

⁴ Unless otherwise noted all emphasis has been added.

Vermiculite & Asbestos Company, both of which shipped their products via the GNRR. In 1924, freight rate negotiations with BNSF (12/4/1924 Western News Article) allowed the companies to secure a low freight rate for shipment of their product by rail (12/11/1924 Western News Article). Shortly thereafter, rail cars were being loaded and shipped from BNSF's downtown Libby Railyard. 1926 GNRR Semaphore Article. In 1927, the Western News contained an entry offering stock in the Vermiculite & Asbestos Company and reporting that the "company has many thousands of dollars in commercial asbestos already opened up" ... "to say nothing regarding the mountain of vermiculite" ... "Our program for this property is an extensive development plan and the immediate erection of a mill. But we will not wait for mill to begin shipping the crude asbestos. This will start rolling to market soon as the tramway is completed." 1927 Western News Publication. A subsequent Western News publication discusses the Libby vermiculite and provides "this stuff belongs to the asbestos family, but is a higher insulator for heat or cold. The stuff has been shipped from Libby to our Los Angeles plants for several years and we worked out thirty-two uses for this material." 5/19/1927 Western News Article.⁵ A May 1927 article titled "Work Progressing at Asbestos Mine" provides that the Vermiculite and Asbestos Co.'s "orders are beginning to pile up and only yesterday a letter was received from the largest users of asbestos on the west coast that they could use several cars weekly." 5/12/1927 Western News Article. Later that month the Western News reported that the neighboring Zonolite Co. was shipping out many orders. 5-26-1927 Western News Article. By June 30 of 1927, in a Flathead Monitor publication,⁶ the Zonolite Company discussed the great publicity "the occurrence of the amphibole asbestos in the Rainy Creek mining district" had been given and announced that commercial export was not economically feasible based in part on the "freight rates on the Amphibole" which "would range from fifteen to twenty dollars per ton in car lots to Chicago and eastern markets with higher proportionate rates to the west." By June of 1927, the Zonolite Company had obtained permission to build a tram with "bunkers and other terminal equipment for the lower end of the tram, which we expect to locate on the Great Northern right-of-way." See 6/9/1927 Western News Article.

By 1932, the Western News reported that the Vermiculite & Asbestos Co. was beginning construction of their new 125-Ton vermiculite processing mill that was expected to be able to produce 125 tons of vermiculite concentrate per day. See 10/27/1932 Western News Article. By 1936 the Vermiculite Company was expanding to include a processing plant in Minneapolis for its growing business. See Western News Article 3/26/1936. In 1939, the vermiculite companies were combined into the Universal Zonolite and Insulation Company, the name of which was changed to the Zonolite Company in 1948.

Sanborn Fire Insurance maps from June of 1946 show the Zonolite Co.'s Storage and Shipping Plant located on Great Northern's right of way at the Railyard and a former Vermiculite & Asbestos Co. property located immediately adjacent to the Railyard. See Sanborn Fire Insurance Maps. During this period, the ore was trucked from the mine site to the processing facility in Libby where it was loaded on the trains, but by 1949 the river conveyor was constructed and material was loaded on the Zonolite railroad siding directly across the river from Rainey Creek Road.

⁵ The Western News reprinted this article in 1967 as part of an anniversary edition.

⁶ This article was also reprinted in the Western News in 1967.

Company Records: In addition to the freight rates from Libby for amphibole asbestos shipments reported in 1927, Zonolite communicated with BNSF in 1962 about the possibility of hauling pure asbestos from Libby to various locations throughout the United States. This is memorialized by a Grace memorandum confirming communications between BNSF and Grace and quoting rates to the Zonolite Company for prospective hauling of pure asbestos. See Asbestos Shorts Shipping Rates Memo, 4/30/1962.⁷ Former BNSF Director of Industrial Hygiene James Shea confirmed these communications between the GNRR and W.R. Grace and that Bulletin 12 conveyed that then current milling technologies were unable to separate the asbestos from the vermiculite in admitting that the GNRR was aware there was “amphibole material in the vermiculite product.” Deposition of James Shea, pp. 99-100.

Railcar Warnings: W.R. Grace correspondence of October 24, 1972, discusses new regulations requiring that railroad cars carrying Libby Ore carry asbestos warning labels “in the form of a placard posted on both sides of the vehicle. By at least 1977 and thereafter, railcars carrying the Libby Ore were marked with asbestos warning placards reading as follows:

CAUTION
Contains asbestos fibers.
Avoid creating dust.
Breathing asbestos dust may
cause serious bodily harm.

See e.g. W.R. Grace correspondence of 10/24/1972, 6/21/77, 6/28/77 and W.R. Grace's response to the Second Request for Information Regarding the Libby Asbestos site, February 22, 2000, pp. 20-21. River Loading Point workers remember affixing these warning signs on hopper cars.

Beginning in 1972, W.R. Grace placed similar government required asbestos warning signs in facilities and on the bagged ore, which was also shipped by rail. See e.g. W.R. Grace's response to the Second Request for Information Regarding the Libby Asbestos site, February 22, 2000, pp. 14, 20. BNSF executives and its geology department visited the W.R. Grace mine on several occasions, at which time the government required asbestos dust warning signs in the mine and the asbestos warning labels on bags of vermiculite concentrate would have further informed BNSF of the asbestos hazard associated with the ore they were hauling.⁸

The problems with asbestos in the Libby vermiculite ore were announced publicly and nationwide in various news publications by the 1970s. See e.g. Louisa, VA Article 9/3/76; 10-24-1979 Letter from USM to U.S. Consumer Product Safety Commission, attaching various articles and publications demonstrating the “general acknowledgement that vermiculite ore contains tremolite asbestos.”

⁷ Zonolite also inquired with Great Northern's Montana tax agent regarding joint tax treatment for their vermiculite and proposed asbestos businesses given that the mining was to be done from the same property in Libby. See 2-21-1962 Zonolite Memorandum. Beginning in 1974, Grace supplied Material Safety Data Sheets to customers receiving shipments of vermiculite ore stating that it contains the “Hazardous Ingredient” tremolite asbestos and advises to avoid creating airborne dust and to use dust control techniques when handling the material. See 7/19/1977 MSDS and W.R. Grace's response to the Second Request for Information Regarding the Libby Asbestos site, February 22, 2000.

The above materials uncontrovertibly establish BNSF's early actual and constructive knowledge of the presence of toxic asbestos in the vermiculite ore coming from Libby.

B. BNSF Knowledge of Asbestos Hazards

The record demonstrates BNSF's early and continuous knowledge of the hazards of asbestos exposure, including bystander exposures, as well as standards of care for detection and prevention of such hazards. Beginning in the late 1920s, ARD was generally recognized as a deadly health hazard throughout medical and industrial hygiene publications.⁹ The connection between asbestos exposure and lung cancer was established in the 1940s within the medical and industrial hygiene communities.¹⁰

Tremolite asbestos, like other forms of asbestos, was recognized in the industrial hygiene literature as highly toxic by 1951 (Vorwald, 1951). Traditionally, LAA has been referred to as "tremolite." More recently, sophisticated analysis has shown that LAA is 84% winchite, 11% richterite and 6% tremolite, which are close geo-chemical relatives. (Meeker, 2003).

BNSF and its predecessors have been aware of the asbestos hazard for decades. This knowledge is well documented by the 1930s:

Association of American Railroads (AAR): Several of BNSF's predecessor railroads were members of the AAR and had agents that were members of the AAR Medical and Surgical Section. For example, the Chicago, Burlington & Quincy Railroad Company (Burlington Railroad), the Atchison, Topeka and Santa Fe Railroad Company (Santa Fe Railroad) and the GNRR were members of the AAR. The Medical and Surgical Section held annual meetings and issued reports on the meetings. Both the Burlington and Santa Fe Railroads had members in attendance at these meetings. In 1937, Dr. D.B. Moss, medical director of Burlington Railroad, was Chairman of the AAR Medical and Surgical Section and presented on the topic of occupational disease and the current state of knowledge regarding asbestos exposure. He advised other members of the AAR that dust could be harmful to workers and that asbestos was one of the principal sources of toxic dust exposure to railroad workers. At the same time, Dr. Moss advised AAR members that asbestosis was strictly a dust disease, caused only by exposure to asbestos.

The AAR Medical and Surgical Section reports acknowledged the hazard of asbestos exposure including asbestosis, pneumoconiosis, pulmonary fibrosis and cancer as well as the

⁹ W.E. Cooke (1927), using term "pulmonary asbestosis" to describe the fibrotic lung disease caused by inhalation of asbestos fibers. Merewether and Price (1930), proving asbestos exposure causes deadly lung disease. Lynch and Smith (1930), *Journal of the American Medical Association*, reporting on fatal case of asbestosis in an asbestos miner. Gardner (1931), "That the long-continued inhalation of asbestos dust is responsible for the development of pulmonary fibrosis is now unquestioned." Diers (1931), reporting incidence of ARD directly related to duration of exposure and "after twenty years of work 80 per cent. are affected." Gerbils and Ucko, 1932, "...in every instance where a patient had been working for more than ten years, asbestosis could be demonstrated radiologically" (Gerbils and Ucko, 1932). Donnelly, (1933), *American Journal of Public Health*, demonstrating the importance of ensuring proper working conditions for asbestos workers. Ellman (1933), reporting cases of asbestosis in insulation workers. Dresden (1938), U.S. Public Health Service, fully documenting the significant risk involved in asbestos textile factories.

¹⁰ The link between asbestos and cancer was referenced in an article by Kenneth M. Lynch and W. Atmar Smith in a widely disseminated journal in 1935 (Lynch and Smith, 1935). Several articles in the 1940s referenced the link between asbestos and cancer, including a 1949 article in the *Journal of the American Medical Association* (JAMA 1949). In 1955, a study published by Sir Richard Doll, conclusively proved asbestos causes cancer (Doll 1955).

process of disease and latency periods. These reports also demonstrate an in depth understanding of how asbestos travels through the air, often to distant locations, and asbestos exposure prevention including through the use of protective equipment, wet procedures and separating non-essential workers from such activities. Documents consistently reference the specific attendance of high-ranking Board officers and medical officials of the GNRR, Santa Fe and Burlington railroads. A chronological summary of some of these reports follows:

1932.¹¹ The Committee on Occupational Disease and Rehabilitation presented on the subject of “dust as an industrial Hazard.”

In conclusion, we wish to emphasize the facts that under certain conditions inhalation of dust cause a fibrosis of the lungs know as pneumoconiosis and that this is an industrial health hazard, that it can be prevented by proper use of water and ventilation, that after fibrosis develops ... the radiographic examination is the easiest and most reliable means of diagnosis.

1935. The Medical and Surgical Section of the AAR’s Committee on Occupational Diseases and Rehabilitation reported:

We as railroad surgeons are undoubtedly more interested in silicosis and asbestosis than in other types [of lung disease].

The Report went on to discuss the cause and symptoms of asbestosis. It then recommended medical monitoring practices for employees working in dust and disease prevention techniques including removal of dust, using wet methods, use of respirators and “frequent analysis of the dust content of the air at different times during the working hours.”

1937. The report discusses the recently enacted Illinois Workmen’s Occupational Diseases Act noting that:

Silica, asbestos, and lead are the principal substances generating toxic dusts to which railway employees may be exposed... It is obvious that avoidance of great exposure to toxic dusts and other poisonous substances used in or generated by manufacturing processes and of unfavorable working condition, is the first essential in preventing and controlling occupational diseases. (pp. 19-21).

The report discusses proper dust control measures, including the use of personal protection including respirators. It goes on to state “silicosis and asbestosis are strictly dust diseases ... contracted only by breathing silica or asbestos dust. ... Prevention and control, therefore, consists of protecting the employee against exposure by the means best adapted to preventing the generation and dispersion of these harmful dusts.”

1939. An extensive discussion of pneumoconiosis was had and Dr. Lanza presented on

¹¹ Notably, the Chief Medical Officer of the GNRR was present at the 1932 meeting (p. 13), and Chief Medical and Surgical Officer of the Burlington Railroad, Dr. Moss, was a member of the Committee of Occupational Diseases and Rehabilitation.

the topic of "Medical Progress toward Further Protection of Industrial health; Report of Medical Committee, Including Plans for 1939. This speaker stated that in his opinion instead of removing man from dust infection work that the dust should be removed from the work. (p. 38).

1940. Discussions note that much "time and study" has been devoted to "pneumoconiosis" by the "Air Hygiene Foundation of America" (name changed to Industrial Hygiene Foundation in 1941). The committee noted that "many details are brought out at their annual meetings which can be made of immense value to the railroads." (p. 29).

1951-1953. The AAR Committee on Disability and Rehabilitation "mention silicosis and asbestosis as forms of [lung] disease most interesting to railroad surgeons." (p. 34). The committee recommended medical examinations at the time of hiring to include history and chest x-ray, "particularly in those occupations where unusual quantities of silica or asbestos dust have been encountered or are contemplated as a routine occupational exposure." (p. 34).

1958. As with the other meetings, members of virtually all of the major railroads in the United States were present. Doctors reported that, "there is very good proof that asbestos is a cause of carcinoma. This is seen in individuals working with, asbestos, particularly miners. It is also seen among plumbers who work with asbestos, seamfitters (sic) particularly." (p. 81). The report referenced a current study reporting "that lung cancer cases were more than three times as numerous among "operating" railroad workers (engineers, firemen, brakemen, conductors, switchmen, and roundhouse personnel) than 'non-operating' workers. Yet the former group made up only about 25 percent of the work force."

In addition to these AAR reports, Railroad claims agents discussed asbestosis at meetings and in their journals beginning in the 1930s.¹²

Alton Railroad Documents: This series of documents was created pursuant to the operation of the Railroad Engineering and Shop Committee, of which the Burlington and Santa Fe Railways were members, and demonstrate their extensive knowledge of the hazards of asbestos as well as methods of prevention and detection of asbestos related disease from the 1930s forward.

In a November 28, 1936 letter from Armstrong Chinn, Chief Engineer of the Alton Railroad Company and Chairman of the Railroad Engineering and Shop Committee, to railroad executives including J.P. Morris, Division Master Mechanic of the Santa Fe Railway and D.B. Moss, Chief Medical Officer of the Burlington Railroad, Mr. Chin recounted the first meeting of the committee. Mr. Chin reported, in part:

[A]s [the committee's] first work, we are to give consideration to and recommend what action seems immediately advisable to protect the railroads from the following possible occupational diseases:

¹² P. Folger, "Legal and Other Aspects of Dust Hazards," Minutes of the 45th Annual Meeting of the Association of Railway Claim Agents, held in May, 1934, pp. 27-48; O.G. Browne, "Silicosis," *The Bulletin* 19:281-284, April 1935; E.R. Hayhurst, "Common Occupational Diseases and Their Differential Diagnosis," Minutes of the 48th Annual Meeting of the Association of Railway Claim Agents held in May, 1937, pp. 31-41.

1. Asbestosis, from handling asbestos materials, such as boiler lagging . . .

In a January 5, 1937, letter from an attorney for the Illinois Central Railroad Company to railroad executives including D.B. Moss, Chief Medical Officer of the Burlington Railroad, the railroad demonstrated early knowledge regarding the highly toxic nature of asbestos, problems with the migration of asbestos fibers, and the principle of bystander exposure:

A discussion was had concerning the best methods of protecting workers from Asbestosis and Silicosis. The men handling Asbestos or doing sand-blasting are not the only ones exposed to the danger of these diseases, as the dusts they make in doing their work create a danger to others that may be working in the vicinity.

The letter further discussed that various railroads “have already studied the question of danger from these diseases, and have put out specific instructions to reduce the hazard.”

The Alton Documents also include “Recommendations for Protection against Occupational Diseases,” which states in relevant part:

In submitting the revised recommendations for prevention of occupational diseases such as lead poisoning, silicosis, and asbestosis, the Committee recognized that the recommendations which are made and designed to comply with the requirements under the Health and Safety Act, and are to be considered a minimum. Some railroads may carry on more expansive operations, which expose employee to the risk of disease or injury by contact with harmful dusts, fumes or gases. Control of such hazards is imperative . . . The first consideration, and the most important, is isolation of any excessively dusty processes, to protect employees in the vicinity engaged in other work and not aware of the risk to which they are exposed. This may necessitate a considerable re-arrangement and re-location of equipment. . . . periodic examinations of its air should be carried on to determine the quantity and composition of the dust, . . . It is only by such examinations that the presence of harmful substances in the air can be ascertained and the adequacy of the ventilation systems checked.

The Alton series of documents go on to discuss the hazard asbestos exposure presents to railroad employees and those surrounding them as well as state of the art discussions of exposure prevention techniques. These documents demonstrate the early and extensive understanding by the railroads including BNSF.

The information contained in the 1936-1937 Alton documents was shared with the other railroads, including the GNR, in June of 1937 at that year’s annual AAR meeting where Dr. D.B. Moss, Medical Director of the Burlington Railroad, and the then current Chairman of the AAR Medical and Surgical Section, presented on the findings of the Railroad Engineering and Shop Committee of which he was a member. His presentation addressed the contents of the Alton documents including the topic of occupational disease advising the

other members of the AAR that dust could be harmful to workers, that asbestos was one of the principal sources of toxic dust exposure to railroad workers and that asbestosis was strictly a dust disease, caused only by exposure to asbestos.¹³

Although in litigation BNSF typically moves to exclude the use of the AAR and Alton documents to demonstrate this early railroad state of the art in identifying and handling asbestos hazards and BNSF's early knowledge of the hazard presented by asbestos exposure, courts have consistently admitted the documents for these purposes.¹⁴

National Safety Council Documents: BNSF predecessors, including the GNRR, the Burlington Railroad and the Santa Fe Railroad were members of the Railroad Section of the National Safety Council. See National Safety Council Railroad Section Chairman List; Discovery Request No. 68 (1987). The National Safety Council published and disseminated numerous articles documenting the hazards of asbestos exposure in the 1930s and later.

In 1960, asbestos was listed as one of seven materials which had been "suspected as lung carcinogens" in an article by Dr. I. Kaplan of the Baltimore and Ohio Railroad ("Relationship of Noxious Gases to Carcinoma of the Lung in Railroad Workers." J.A.M.A. 171:2039-2042, Dec. 12, 1959, reprinted in The Bulletin 44:511-520, 1960); see also 11/18/1980 BNSF correspondence noting "Asbestos is one of the few materials which has been demonstrated to be capable of causing cancer in humans." BNSF was aware that "concerning asbestos containing products" "the hazard exists whenever dust is produced during the life cycle of the product." 3/29/1979 BNSF correspondence; see also 4/10/1979 BNSF memorandum "Discussion on Hazardous Materials – Products containing asbestos".

BNSF had an extensive exposure to applicable industrial hygiene standards of care throughout the years that it shipped Libby vermiculite. BNSF maintained a Medical Department, an Industrial Hygiene Department, a Safety Department, and a Geology/Mineral Research Department. In addition to being a member of the National Safety Council, the Association of American Railroads, and the Shop and Engineering Committee, BNSF's industrial hygienists were members of the American Industrial Hygiene Association as well as the American Society of Safety Engineers and BNSF's medical officers were members of the American Occupational Medical Association. See Discovery Request No. 68 (1987); BNSF's Response to Sixth Discovery Requests - Kleeck. BNSF maintained a vast industrial hygiene and occupational medicine library and received an extensive number of publications on the topic for the use of their Medical Department and industrial hygienists including various texts on asbestos hazards and prevention. See e.g. List of publications received by BNSF Medical Department (1987). The Railroad had a Safety Division and regularly sent employees working therein to safety training courses. See 1/11/1982 BNSF correspondence.

¹³ For the 1937 AAR meeting, W.P. Kenney, President of the GNRR, and S.T. Bledsoe, President of the Atchison, Topeka & Santa Fe Railway, were on the Board of Directors, and Dr. D.C. Webb, Chief Surgeon of the GNRR was on the Committee of Direction for the Medical and Surgical Section.

¹⁴ See e.g. *Kath v. Burlington N. R. Co.*, 441 N.W.2d 569, 575 (Minn. Ct. App. 1989); *Florida E. Coast Ry. Co. v. Osborne*, 699 So. 2d 724, 729 (Fla. Dist. Ct. App. 1997), "In sum [] the AAR documents, and the Alton Railroad documents are relevant and admissible on the question of what the FEC should have known prior to, and during, the time of plaintiff's employment.

Thus, BNSF was aware of applicable safety regulations and regularly discussed their impact on their operation.¹⁵ In addition to the applicable safety regulations and general industrial hygiene practices to which BNSF was subject, it acknowledged its safety responsibilities, which similarly establish its knowledge of these protective principles.¹⁶

In sum, BNSF not only had early knowledge of asbestos in the Libby vermiculite, but clearly had early knowledge of the hazard presented by asbestos, the proper means of identifying its presence, and appropriate means of preventing exposure. Thus, BNSF could and should have recognized and addressed the extreme asbestos hazard that BNSF's vermiculite related activities were producing in the Libby area. Despite the documented knowledge and recommendations going back to the mid-1930s, BNSF failed to take any action in Libby even throughout the 1990s.

C. BNSF Operations in Libby

BNSF carried tons of asbestos through Libby every day: Strip mining, transportation, and processing of vermiculite ore containing asbestiform minerals was conducted in the Libby area from approximately 1923-90. The Libby mine produced approximately 80% of the world's vermiculite ore, which by 1970 amounted to over 29 billion pounds of ore (Bulletin 79, p. 147) and was estimated to exceed 35 billion pounds of ore from 1971 through 1981 alone.¹⁷ Based on estimates of the asbestos content of the vermiculite ore (averaging between 0.3% and 7% asbestos), BNSF carried more than between 193 million and 4.5 billion pounds of asbestos into and out of downtown Libby between 1925 and 1981. According to W.R. Grace, the average daily production from the mine and milling operation was between 500 and 1000 tons of finished vermiculite concentrate per day between the late 1960s and 1970s and between 800 to 1000 tons per day in the 1980s.¹⁸ Using a daily average of 750 tons, BNSF carried up to 105,000 pounds of Libby Amphibole Asbestos into and out of downtown Libby per day in the late 1960s and 1970s and up to 126,000 pounds per day through the 1980s.

Vermiculite rail car loading: The ore was mined at Vermiculite Mountain, seven miles outside of Libby, and processed originally in Libby and then later at the mine site. The concentrate was moved via a conveyor belt across the Kootenai River to the River Loading Site, located 4.5 miles east of BNSF's railyard in Libby (the "Railyard"). BNSF constructed a siding

¹⁵ See e.g. 4/19/1974 BNSF correspondence, discussing Federal safety regulations and training "required by law"; 1/9/1984 BNSF memorandum discussing OSHA regulations for the exposure to asbestos and BNSF's duty to conform thereto; 3/24/1981 Letter from BNSF to OSHA requesting an additional copy of booklet entitled "Training Requirements in OSHA Standards" and a page from the publication discussing the Railroad's duty to analyze work environments for potential exposure to toxic dust; 5/16/1975 BNSF Correspondence discussing OSHA regulations and their effect on Railroad industry; 6-6-1974 BNSF memorandum regarding Federal Respirator Regulations; 3/29/1979 BNSF correspondence discussing "the strict federal regulations controlling work practices with asbestos; 4/26/1979 BNSF correspondence; 4/10/1979 BNSF correspondence discussing stringent OSHA regulations regarding asbestos including the permissible exposure limit.

¹⁶ See e.g. BNSF Responsibilities for Safety – Content from Supervisor/Foreman seminars on safety 1975-1976 setting forth what BNSF considers to be "the fundamental requirements" and requiring inspection of "Atmospheric conditions, e.g. dusts"; 5/16/1975 BNSF memorandum discussing the BN Safety Policy which states "Safety is essential for efficient transportation and Safety is the primary concern and continuing responsibility of each supervisor and employee alike"; 9/11/1981 BNSF correspondence attaching a BNSF Respiratory Protection Program representing "the minimum which will meet all requirements" and setting forth the BNSF policy that "Burlington Northern will use substitution, engineering, and administrative controls to reduce employee exposures to toxic substances whenever feasible. When not feasible, or while being implemented, respiratory protection will be used"

¹⁷ See Grace Mine Production Report – April 1979.

¹⁸ See W.R. Grace's response to the Second Request for Information Regarding the Libby Asbestos site, February 22, 2000, pp. 8-9.

at this location for the exclusive use of Zonolite (later W.R. Grace) so the company could pour its vermiculite products into waiting rail cars. During the loading process a substantial amount of vermiculite would always spill onto the surface of the cars. BNSF then brought each of the asbestos laden vermiculite shipments into the Railyard located in downtown Libby.

BNSFs presence in downtown Libby: The Railyard was the heart of BNSF activities in Libby. It was located directly adjacent to downtown Libby and was immediately surrounded on all sides by Libby's residential neighborhoods, businesses, places of employment, public parks, sporting fields, the public swimming pool, and the community garden. See Mineral Ave Color C, downtown Libby circa 1950s with railcars in background; MDOT 4/25/1977, BNSF's Libby Railyard associated W.R. Grace Facilities and surrounding properties. The Railyard was extensive, spanning the entire north end of downtown Libby. W.R. Grace's downtown Libby facility initially straddled, and later adjoined the BNSF Railyard property line and consisted of vermiculite storage, loading and processing facilities. Baseball was popular in Libby and nearly everyone in the area attended games. See Baseball Field at Zonolite; Baseball Parade; Baseball Parade 2. The storage and export facilities attendant to the rail transportation of vermiculite were left open to the public and most children growing up in Libby recall playing in the area of the Railyard as well as in the large piles of vermiculite located throughout. See Baseball Field at Zonolite 2, Photo of baseball game being played in close proximity to BNSF's downtown Libby facilities (note children playing on ramp entering Railyard). In addition, local celebrations such as Logger Days and the Carnival were held at the baseball fields adjacent to the Railyard. See MDOT 7/13/1971, showing cleanup and removal of equipment from ball fields following Logger Days celebration and children practicing baseball on two of the three other ball fields; MDOT 6/14/67 showing children practicing on adjacent ballfields.

Prior to the construction of the River Loading siding in the late 1940s (9/13/1949 Letter from J.M. Budd to F.J. Gavin), the vermiculite ore was trucked to the Zonolite/W.R. Grace export plant located on the BNSF Railyard property in downtown Libby. During that period, the vermiculite ore was stored and loaded into the BNSF boxcars at the Railyard. From the Railyard, BNSF joined the vermiculite filled railroad cars to eastbound or westbound trains. BNSF shipped an average of 10-16 car loads of vermiculite concentrate out of their downtown Railyard per day and across the Country to processing facilities nationwide. At the processing plants, the ore was expanded or "exfoliated" by rapid heating, then exported to market via truck or rail. Some amount of the vermiculite was expanded and bagged in Libby itself and then shipped by BNSF rail.

River Loading Point: Production and shipments of vermiculite ore increased over the 1950s, 1960s, 1970s and 1980s. At River Loading, Grace employees loaded the rail cars that BNSF transported to the Railyard. Initially, box cars were used exclusively. Eventually, larger hopper cars became the primary means of shipping ore. By the 70s and 80s, hopper cars were used almost exclusively for loading at the River Site, although some shipments of bulk material in box cars continued. 3/14/1979 Letter from Grace to Narwocki Insulation. Loading was performed five days per week, and sometimes more frequently, throughout the 40 plus years that the River Loading Site was used. See River Loading Photo 1, with approximately 18 cars being loaded on Zonolite siding; River Loading Photo 2, 9/7/1960, with at least 24 cars being loaded; River Loading Photo 3. The river loading point had a loading rate of 100 tons per hour and Grace was able to load one 50 ton car every 40 minutes. See 5/12/1962 Zonolite memorandum;

1951 Report on Mining of Vermiculite.

The river loading process was extremely dusty. See Video Clip of River Loading Site in operation. The airborne dust created during the processing and production of the vermiculite ore was sampled and found to contain approximately 40% asbestos. See Vermiculite Dust Sampling, 4/13/1962. The loaded rail cars and the entire area were constantly coated in a layer of this vermiculite dust. See River Loading Photo 4 – note the layer of vermiculite dust accumulated on the south facing roof in the forefront. Box cars were used exclusively at the River Loading Site until the 60s when they began to be replaced by top loading hopper cars. See e.g. 9/25/1961 Hopper car request letter from Zonolite to the Great Northern Railroad (GNRR). The process of loading the box cars through the open side doors was extremely dusty. See River Loading Photo 3, with visible vermiculite dust emanating from loaded box car and accumulated dust pile on loading shack roof; River Loading Photo 5, with a visible dust cloud spreading from the loading shack to the right covering the loaded box cars in vermiculite dust; River Loading Photo 6, 9/24/1959, with dust covered vermiculite loaded box cars to the right of the loading shack and cleaner empty cars to the left.

When hopper cars were loaded at the river site, the conveyor did not stop when passing from one hopper car hatch to another. Much loose vermiculite accumulated on the top of every car.¹⁹ Thus, all the time from the 1950s to approximately 1994, BNSF employees riding in engines pushing the vermiculite cars to town described visible clouds of dust being produced. There was dust in the air the entire time while returning loaded cars from Grace to the Railyard. The United States Department of the Interior, Bureau of Mines performed testing of tremolite asbestos dust throughout the Grace Mine operation, including at the River Loading Point on several occasions. See e.g. US Bureau of Mines Report 1971 (BN Grace Repository Docs. 20152342). The 1971 Report states:

The car loader, located in a control booth alongside the railroad tracks, filled cars with concentrate. Although protected in the booth, and although the loading equipment was provided with a Pangborn dust-collecting system, the exposure appeared high” ... “Settled dust was noted above the railroad car roof slots.”

See also 1973 BOM Report; 1977 BOM Report providing that although the samples in this location were apparently taken within the “pressurized control room,” airborne asbestos levels were among the highest measured across the entire vermiculite operation at up to more than 10 f/cc. Because spilled vermiculite and accumulated vermiculite dust had to be continually cleaned from the loading area, Grace created a spilled vermiculite dumping point along the access road to the River Loading Point. See MDOT 1967; Deposition of David McMillan pp. 23-24, 76. Asbestos sampling in the area has revealed extensive visible vermiculite and high concentrations of asbestos in the soil. See e.g. EPA Libby Database mapping of River Loading Point soil samples.

The River Loading Site was owned by BNSF and leased to Zonolite/Grace. See, e.g., Affidavit of James Roberts 2/8/2007; Zonolite Siding Lease 9/12/1956. BNSF funded the construction of the Zonolite siding at the River Loading Site and oversaw all construction and

¹⁹ This was confirmed by Former BNSF Director of Industrial Hygiene James Shea in 2007. See Deposition of James Shea, p. 91.

improvements made at the site. BNSF and W.R. Grace employees worked in tandem at the River Loading Point to deliver, fill and transport the railcars of ore into Libby. The parties carried a series of landlord and tenant insurance policies which covered the River Loading Site, and named BNSF as the insured. See e.g. Zonolite Siding Insurance Agreement 4/14/1977. As discussed below, BNSF retained control over the design and construction of the health and safety fixtures on its premises, including air pollution control devices.

Expanding Plant: Adjacent to the Libby Railyard, an expanding plant was located in Libby and operated until approximately 1969-70. Its output was about 25 tons per week or half a 50 ton boxcar per week. The raw ore was expanded two to three times per month. The expanded vermiculite was moved to the export plant where it was bagged and loaded into railcars positioned there by BNSF.

Bagging Plant: The bagging plant was located immediately adjacent to the spur track. Two to three workers bagged raw ore. They filled about one boxcar per day, which was 50 tons or about 1,000 100 pound bags. In the 1950s, production was less and then it was fairly constant at this level in the 1960s, 1970s and 1980s. BNSF hauled the filled box cars away and kept the bagging plant supplied with empty boxcars to fill.

The bagging plant had an open entrance between the storage silos and the bagging plant where a boxcar entered. Dust came out the sides and windows of the bagging plant covering the boxcars in the asbestos laden dust. In 1975 or 1976 a new bagging machine greatly decreased the dust. Still, fiber monitoring in the 1970s continued to demonstrate hazardous levels of airborne asbestos.

Libby Railyard: Loaded vermiculite cars usually sat for at least several hours in the Libby yard before being attached to an east or west bound train. The cars first had to be inspected and weighed by BNSF workers at the scales near the depot in the Railyard. This involved attaching and detaching the cars, bumping them each time. Workers report seeing dust fall from cars and being entrained into the air during this process of collisions, as well as by the removal and reattachment of air hoses between cars during their movements.

While waiting to be attached to outbound freight trains, the loaded vermiculite cars would be placed on Track #1, #2, or #3 in close proximity to the main line (cars parked on track 1 would be within several feet of passing trains). Workers report that the hopper cars would have several inches of loose vermiculite and vermiculite dust on their tops at this point. Throughout the entire period when BNSF shipped vermiculite, freight trains consisting of up to 100 cars sped through the Libby yard at 50 mph, generating dust clouds. This dust was 40% asbestos, which remained suspended for hours as it drifted throughout the Libby community. See Vermiculite Dust Sampling, 4/13/1962; (EPA 4/30/2014).

Between 20 to 50 trains would pass through the Railyard on a given day. The ground and track bed throughout the Railyard was covered in visible vermiculite which would be blown around and disturbed each time a train passed by. It was commonplace that the force of air turbulence from passing freight trains would blow visible dust off the vermiculite cars sitting in the Libby Railyard. From a point west of the vermiculite bagging plant to a point east of the depot, the railroad right-of-way was between 100 and 300 feet wide. From this large area, and

indeed all portions of the track on either end of and beyond the Railyard, dust containing 40% LAA was entrained into the air and cycled into the town of Libby and neighboring properties.

Libby represented the busiest stop on the northern line during much of the period that BNSF transported vermiculite. This was due to vermiculite and lumber shipments being made by W.R. Grace and the Libby lumber mill, and for some time, the shipments of construction materials for use in the erection of the Libby Dam.

Over the years, Zonolite/Grace had multiple leases, easements and land use agreements with BNSF related to the operation of both downtown facilities. These entities engaged in multiple real property transfers in and around the Railyard. See e.g. Affidavit of James Roberts 2/8/2007; List of Zonolite contracts with GNRR transferred to Grace in 1963 sale; Compilation of selected leases, easements, and property transfer documents. While the history is complex, what is clear is that BNSF and W.R. Grace operations were co-mingled and closely associated in downtown Libby.

Leakage: BNSF workers all report seeing vermiculite leak from the loaded vermiculite cars. Much of this spillage accumulated in the Railyard in downtown Libby. Workers report that the loose vermiculite and vermiculite dust on the loaded hopper cars would regularly spill off the cars during the weighing and moving process. They all report that the Railyard, the right of way leading into and out of Libby and the Troy rail yard were all constantly covered in a layer of visible vermiculite.²⁰ They recall dust piles one to two feet high in the Libby yard from leaking vermiculite cars on a regular basis, and reported scattering the piles into the Libby yard with a shovel or simply kicking down smaller piles. Many remember freight trains leaving the Libby yard with vermiculite cars, and noticing that the cars were leaking. See e.g. 12/23/1958 letter from J.R. Huxley of the California Zonolite Co. to R.A. Bleich of Zonolite (reporting a car en route losing over 30 tons), other selected documents referencing leakage and spillage.

It was BNSF's responsibility to inspect the rail cars to ensure they were clean and suitable for use in shipping of the vermiculite ore prior to delivery to the River Loading Site. See e.g. BNSF_HHP_000626; 5/26/1966 letter from Grace to GNRR – dirty, uninspected hopper cars. The cars were again inspected by BNSF for suitability and leakage during the weighing and shipping process.

Track crews recall that regular maintenance and upkeep in the Libby yard was more challenging due to the prevalent vermiculite waste. BNSF workers spent several weeks each year in and around Libby performing the various cleaning, tamping, and surfacing projects and these constant activities disturbed, entrained, and most often redeposited asbestos-contaminated vermiculite on the tracks, in the BNSF right-of-way and on nearby properties.

Derailments: Several derailments involving vermiculite containing rail cars occurred over the years. These wrecks, and the subsequent cleanup efforts, generated major soil disruption around the rights-of-way. A derailment at the River Loading Point in the winter of 1966 resulted in overturned vermiculite hopper cars, significant dust exposure to BNSF cleanup

²⁰ The presence of visible vermiculite throughout the Railyard into the 2000s was confirmed by BNSF Manager of Industrial Hygiene, Gerald McCaskill, who remembers the Railyard sparkling with vermiculite. Deposition of Gerald McCaskill, p. 55.

workers, and additional contribution to asbestos in the Libby airshed. See photo of Derailment at River Loading – Winter 1966 and 2/28/1966 Derailment loss claim. In February 18, 1979, there was another derailment at the River Loading Site, which resulted in the destruction of the River Loading facility, extensive spilled vermiculite and vermiculite dust, massive dust exposure to BNSF cleanup workers, and additional contribution to asbestos in the Libby airshed and soil. 2/18/1979 Derailment Packet. While the W.R. Grace River Loading Site was being reconstructed, ore loading operations took place at the Railyard in downtown Libby. *Id.* pp. 9-10. There were also derailments that occurred in the Railyard, which contributed to the amount of vermiculite in the rail bed of the Railyard and, when cleaned up by BNSF workers, contributed to the asbestos in the Libby airshed. See e.g. Deposition of Frank E. Shockley.

Rail Cars: With hopper car loading, workers report that at the River Loading Site, very often the vermiculite dust would build up 8 to 16 inches above the rails, and there was so much dust from the loading operation generally that it was difficult to see if a rail car was leaking. This led to rail cars being filled and brought to town, leaking all the way. Often if a forklift entered a boxcar it could crack the floor, but the crack was not visible, or did not give out until the car was loaded with vermiculite. Railroad employees recall that the vermiculite was held in the box cars using grain doors, which were pieces of plywood that were stacked across the door to hold the loose vermiculite in the car during loading and shipping. See e.g. BNSF_HHP_000033; 1951 Report on Mining Vermiculite. They recall that vermiculite would make its way through the space between the grain doors and through knot holes in the grain doors themselves and that the boxcar doors would not prevent this escaped material from spilling out onto the Railroad ballast. Unloading of box cars was also described as extremely dusty. 1944 Inspection Report.

BNSF was responsible for inspection and cleaning of cars prior to delivery and again after loading at the Railyard during weighing. See e.g. BNSF_HHP_000626; Deposition of Frank E. Shockley. During the inspection and weighing process, BNSF was responsible for ensuring that box cars were not leaking and for ratcheting closed the hatches of the hopper cars. Railroad employees recall that even with the additional ratcheting efforts, the hopper doors would often not seal completely leading to leakage. If cars (boxcar or hopper) were discovered leaking in the Libby yard, then “repairs” were made by stuffing “waste” material (shredded rags) into the holes. This was a temporary fix at best but was still quite common. See, e.g., selected documents referencing leakage and spillage.

D. Libby Amphibole Asbestos

The vermiculite that BNSF brought into and shipped out of Libby was heavily contaminated with highly toxic LAA. A 1982 Environmental Protection Agency (EPA) study reported that approximately 21 to 26% of the unprocessed ore and 0.3 to 7% (by weight) of the concentrated vermiculite was asbestos (United States Department of Health and Human Services Agency for Toxic Substances and Disease Registry, Chemical-Specific Health Consultation: Tremolite Asbestos and Other Related Types of Asbestos, 2001, page 12). Based on these estimations, BNSF carried more than between 19.3 million and 4.5 billion pounds of LAA into and out of downtown Libby between 1925 and 1981, and between 19.7 and 460 million pounds of LAA into and out of Libby throughout the 1980s.

For chrysotile asbestos, the most commonly encountered form of asbestos, it is thought that 25 fiber per cubic centimeter years (f/cc years) of exposure is sufficient to cause asbestosis, whereas, for amphiboles in general and LAA in particular, the threshold exposure has been reported at 2 f/cc years or less (Rohs et. al. 2007).

Libby Asbestos is a particularly toxic form of amphibole asbestos, consisting of a mixture of three amphibole asbestiform minerals; 84% winchite, 11% richterite, and 6% tremolite (Meeker 2003). The apparent high toxicity of Libby Asbestos prompted the EPA to engage in a toxicological assessment and issue an exposure reference concentration (RfC) for this particular asbestiform of 0.00009 f/cc, which represents the threshold predicted level of airborne LAA exposure below which a person would not be expected to develop asbestos related findings on radiograph. EPA 12/2014, Toxicological Review of Libby Amphibole Asbestos. Outdoor asbestos air concentrations were measured at locations near the downtown BNSF Railyard in 1975 at up to 1.5 f/cc, more than 16,000 times higher than the LAA RfC. (Results of W.R. Grace 1975 Dust Surveys – Source Emissions). Moreover, sampling logs taken during testing record wind of approximately 12 mph from the south west ruling out any significant contribution to these levels from emissions directly emanating from the mine area which is located seven miles to the north east. See 1975 Asbestos Sampling Log.

BNSF Asbestos Cleanup: EPA began remediation efforts in Libby in December 1999. Its investigations into LAA contamination on BNSF property began in 2001. Because of the very extensive contamination on BNSF properties, the cleanup extended over more than a decade and involved several attempts with varying levels of success. By the time the cleanup of this contamination was determined to be adequate, vermiculite and asbestos contamination had been identified and removed (or capped in place) from practically every square foot of the Libby yard and from other BNSF properties in Lincoln County. See e.g. EMR cleanup Photos.

BNSF entered into a consent agreement with the EPA under which BNSF agreed to perform the cleanup of its Lincoln County property using its own environmental contractors. In an 11/4/2001 document titled Settlement Negotiations: Administrative Order on Consent for Removal²¹, the EPA reports:

Respondent owns a railyard within the Site. Respondent recently implemented its own investigations to determine if yard activities would entrain asbestos fibers into the air; the results confirmed that such activities can entrain high levels of asbestos fibers.

On November 30, 2001, BNSFs contractor Environmental Resources Management (EMR) reported that it had “completed soil sampling and mapping of visibly obvious asbestos at the Burlington Northern and Santa Fe Railway Company (BNSF) Libby, Montana Railyard, herein referred to as the site... During sampling, areas with visible vermiculite or biotite were mapped for placement on the CADD map. Samples from these areas will not be collected. These areas were flagged with surveyors red whiskers.”

²¹ To maintain brevity, subsequent citations to documents received from, or authored by, EPA will be provided as follows - (EPA date of document) and some documents received from BNSF will be designated using BNSF's bates numbers.

Soil sampling performed in the BNSF's Libby Railyard in 2002 demonstrated the presence of LAA in 27 of the 32 samples taken. (EPA 4/30/2014). Although it had been more than a decade since Grace had shut down its mining operations in Libby, mapping of visible "biotite"²² on the rail beds of the Railyard demonstrated extensive visible vermiculite remaining throughout the rail beds. (BNSF_511_0034²³).²⁴ Visible vermiculite was also identified and sampled at the River Loading Facility where asbestos was detected in a majority of the soil samples taken at levels of up to 4% Libby asbestos. See BNSF_511_0005, p 8; EPA 3/1/2007 pp. 328-333, 335-336. By August of 2002, the EPA found:

Respondent recently implemented its own investigations to determine if yard activities would entrain asbestos fibers into the air. Baseline monitoring along the tracks conducted by Respondent has found the highest concentrations measured during the sweeping ranges from 7 to 14 f/cc in air samples in three locations - Hwy. 37 crossing the railroad tracks, close to the 5th Street, and the loading/unloading station near the Bluffs. ... In addition, visible unexpanded vermiculite remained at Track #1, Track #2 and Track #3.

(EPA 8/19/2002). The 14 f/cc of asbestos measured in the air during BNSF's 2002 Railyard activities, is more than 150,000 times greater than EPA's recently issued LAA RfC and 140 times higher than OSHA's permissible exposure limit for workplace asbestos exposure. The Railyard activity sampling took place more than a decade after active vermiculite mining had ceased in Libby and, therefore, sample results under-represent airborne asbestos levels that would have been produced in previous decades. Notes and log sheets authored by BNSF employees and contractors during the Railyard activity sampling events indicate how dusty conditions at the Railyard were; "Huge Dust Plumes" created during ballast regulation exercise (BNSF_503_0017), "Big dust cloud generated during movement, plowing, and especially during brooming" ... "Very dusty when sweeping, big dust cloud - dust noticeable to ball fields (couldn't see at times)" (BNSF_503_0018), "small cloud of dust/visible dust generated replacing tie and plate... Dust cloud generated during brooming" (BNSF_504_0002).

In August 2003, soil containing visible vermiculite was removed from the BNSF Railyard using vacuum trucks and an excavator. Post-excavation clearance soil sampling was then conducted. Despite BNSF's extensive cleanup efforts, LA was still detected in all three composite clearance soil samples at up to 3% asbestos. (EPA 4/30/2014 - Libby Asbestos OU6 Final Remedial Investigation Report). An initial pollution report regarding the Railyard issued shortly thereafter provided:

Sampling shows that asbestos, a hazardous substance, is present in soil, raw ore, ore-concentrate and other soil-like materials at various locations in and around the community of Libby including the BNSF rail yard. Visible vermiculite has been

²² Vermiculite and biotite are both widely distributed throughout the Rainey Creek complex near Libby, Montana. Both of these minerals constitute the material of commercial value ('vermiculite') that is mined at this locality. It is suggested that the vermiculite is a product of leaching of biotite by ground waters. Boettcher, A.L., Vermiculite, Hydrobiotite, and Biotite in the Rainey Creek Igneous Complex near Libby Montana, *Clay Minerals* (1966) 6, 283.

²³ Note that a large stretch of track was occupied by a parked train at the time of inspection so visible vermiculite was not reported for that stretch.

²⁴ BNSF Manager of Industrial Hygiene, Gerald McCaskill confirmed the presence of visible vermiculite during this process, particularly in the area of the Railyard scale where BNSF weighed cars carrying vermiculite. Deposition of McCaskill, pp. 170-172.

found along the tracks and within the railyard and analytical results have shown asbestos levels in soil from 2-5%. ***

Asbestos contaminated materials were hauled and shipped through the railyard, and spilled into the soil for decades. The soil around the tracks and under the ballast is contaminated and needs to be removed. BNSF has agreed to perform the cleanup at the Libby railyards and its tracks under an Administrative Order on Consent (AOC) to address the high levels of asbestos. ...Cleanup began on August 13, 2003. Unfortunately, cleanup was not achieving satisfactory results, so work was stopped on August 21, 2003 and BNSF is reevaluating cleanup options.

(EPA 9/29/2003). In 2004, BNSF hired Kennedy/Jenks Consultants who reported:

The rail bed structure in the yard has been infiltrated with fine particulates of vermiculite from a local mining operation that loaded the vermiculite into railroad cars for transport. Vermiculite from Libby contains actinolite-tremolite in asbestiform fibers (asbestiform fibers), which is a regulated substance being cleaned up under The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)...

... Kennedy/Jenks Consultants understands the track ballast and adjacent soil at the eastern end of the yard contains asbestiform fibers. Four currently active yard tracks and remaining portions of some former industrial spurs with an aggregate length of approximately 9,000 feet are potentially affected.

(BNSF_511_0024). In late 2004, BNSF's own remediation contractor EMR reported to the EPA:

It was determined during excavation activities on the west end of the site that there are some pockets of material located randomly throughout the area north of the main line in which the presence of hydrated biotite [(vermiculite)] is visible to a depth of three to four feet below the reference elevation, which is the tops of the railroad ties along the main line track.

(EPA 10/4/2004). At the end of 2004, BNSF contractor Kennedy Jenks issued a Libby Railyard Response Action Completion Report which provided:

In the zones scheduled for excavation, soil potentially containing Libby amphibole or hydrated biotite was excavated, and underlying soil was sampled concurrently to evaluate whether detectable Libby amphibole remained (clearance samples). Excavation proceeded until laboratory results indicated that Libby amphibole fibers were not detected in the soil samples (generally no more than 29 to 35 inches below the top of the adjacent ties comprising the existing BNSF main line) or to a depth of at least 4 feet. At several locations, excavation reached a depth greater than 4 feet, but clearance samples indicated detectable Libby amphibole had been removed. At one small location, excavation reached at least 6 feet, but clearance was not achieved, as described below. In the other portions of the Site,

soil containing Libby amphibole or hydrated biotite was capped in place.²⁵

(BNSF_511_0041). The visible vermiculite throughout the Railyard is further documented in BNSF contractor field notes from the time. See e.g. EMR Field Notes Sept.

Despite the extensive continuing cleanup efforts through 2005, LAA continued to be detected in clearance soil samples and site air monitoring at BNSF cleanup locations. BNSF's cleanup efforts between 2003 and 2005 led to more than 18,000 tons of LA asbestos-containing soils and 5.34 miles of rail and other track material being removed from the Railyard alone. (EPA 4/30/2014, EPA 5/14/12). By the end of this process, nearly all of the ties and tracks had to be removed and nearly the entire Railyard was excavated and either filled or capped. See EPA 4/30/2014, Construction Drawings pp. 117-145. Yet, in 2005, soil and air samples were still demonstrating significant asbestos contamination at the Railyard. In 2005, BNSF had reportedly completed cleanup efforts at the Railyard, however even then, while conducting a "final completion site walk with BNSF site representatives to inspect the restored rail yard areas," they found "a pile of Libby Vermiculite that was on existing railyard property." (EPA 1/27/2005). BNSF's cleanup efforts continued to be unsuccessful and in 2011 extensive areas of vermiculite contamination were once again identified at the Railyard. (EPA 5/30/2011). By the time the cleanup of this contamination had been completed after 11 years of effort, vermiculite and asbestos contamination had been identified and removed (or capped in place) from practically every square foot of the Libby yard.

BNSF – a recognized source of contamination: Significantly, the EPA recognized that BNSF's 60 plus years of vermiculite related activities in Libby were the source of, and had caused, extensive contamination to other properties, including downtown Libby, which was located adjacent to the Railyard. In 2012, it reported:

The Libby Asbestos Site has been the focus of a number of environmental investigations and response actions. Areas investigated have included property owned by BNSF and along BNSF rights-of-way. BNSF has performed a removal action at the Railyard. **EPA has reason to believe that sources of contamination are, at least in part, from properties, railroad tracks, and rights-of way owned, leased, and maintained by BNSF, as well as from various railroad operations performed at a number of locations at or near the asbestos mine facility at the Site.**

(EPA 2/2/2012).

A 2012 "Good Faith Offer" and Proposed Settlement Agreement from BNSF attorneys to the EPA states:

Respondent's rail line runs, in part, between Troy and Libby. It is believed that spillage and dispersion may have occurred along the rail line, rights of way, and other properties associated with rail transport in the area thus causing vermiculite concentrate and/or processed material to be deposited on and adjacent to these

²⁵ See Ballast excavation cross section demonstrating vermiculite presence down to clay layer.

areas. It is these areas within the Site that comprise OU6. ***

The vermiculite spillage along Respondent's right-of-way is uncontrolled. Once disturbed, the vermiculite spillage exposes receptors to high levels of amphibole asbestos fibers. ***

Respondent is the Owner and operator of property in OU6 at the Site and holds a right-of-way along its rail line. **During the operation of such rail line, vermiculite containing amphibole asbestos was released to the environment through spillage from the rail cars.** With the exception of spillage in the rail yard, the spillage has been left exposed to the environment and to disturbance by human activity. ***

(EPA 4/16/2012). In September of 2013, after 11 years of BNSF remediation activities at the site, the EPA determined that an additional removal action would be required on BNSF property. (EPA 9/23/2013).

Asbestos Fiber Fate and Transport: Every time the ore or the vermiculite concentrate was moved or disturbed, Libby Asbestos dust was entrained into the air. Employees of BNSF, who worked in Libby while BNSF was engaged in the handling of Libby vermiculite, confirm that BNSF's activities created huge amounts of airborne vermiculite dust.

The suspension of LA in air is measured in "half times," representing the time it takes 50% of LA particles to settle out of the air column. The typical half time for a 0.15 µm particle is close to 40 hours (CDM 2009, EPA 2013).

Asbestos fibers in the air are known to travel from their source or point of origin. The EPA states:

During the time that the [asbestos] fiber remains airborne, it is able to move laterally with air currents and contaminate spaces distant from the point of release. Significant levels of contamination have been documented hundreds of meters from a point source of asbestos fibers, ...

The theoretical times needed for [various sizes of respirable] fibers to settle from a 3 meter (9 ft.) ceiling are 4, 20 and 80 hours in still air. Turbulence will prolong the settling and also cause re-entrainment of fallen fibers (EPA 1978b).

The EPA recently reported:

LA asbestos suspended from disturbing vermiculite insulation settled within approximately 24 hours (CDM Smith 2009). Once suspended, LA Asbestos moves by dispersion through air. LA asbestos concentration will be highest near the source and will decrease with increasing distance. (EPA 4/30/2014).

While there was no relevant air sampling done along the rail corridor near Libby, airborne asbestos dust collection did occur naturally. Studies sampling tree bark in the Libby area, performed by Dr. Terry Spear and the EPA, have demonstrated that trees can act as receptors of airborne asbestos fibers. Samples of tree bark “collected 7 miles west of the town next to a railroad line had concentrations of 19 million fibers/g.” Ward et al., Trees as reservoirs for amphibole fibers in Libby, Montana, Sci. Total Environ. 2006 Aug 15;367(1). Given the remote location of the railroad samples in relation to all W.R. Grace facilities, it is apparent that BNSF’s activities were the primary contributor to airborne asbestos fibers in this area and in other areas surrounding the BNSF corridor.

Because the Railyard was located in downtown Libby, asbestos fibers entrained by activities thereon would necessarily travel over “hundreds of meters” and settle onto the residential, commercial, and recreational properties in the vicinity. Once asbestos fibers settle out of the air they can be re-suspended following soil, dust and sediment disturbances. As BNSF’s contractor EMR points out, there is “evidence to suggest that vermiculite material with an asbestos content as low as 0.1% may generate airborne fiber concentrations ranging between 5 and 10 f/cc.” (BNSF 501 0014 008). Similar results are seen with disturbance of asbestos contaminated soil (Addison 1988). Due to these characteristics of LAA, BNSF’s activities while handling and transporting massive amounts of concentrated vermiculite into downtown Libby and throughout Lincoln County resulted in the widespread (in distance and over time) casting of dust containing Libby asbestos into the air of the community. This created recurrent and persistent exposures not only for railroad workers and their families, but also for members of the Lincoln County community who lived, worked, shopped and played in relative proximity to the Railyard where asbestos was measured in the air at 1.5 f/cc—more than 16,000 times higher than the LAA RfC.

E. BNSF Working in Concert with Grace.

BNSF was not simply a disinterested common carrier operating under regulatory obligation to ship the Libby Vermiculite with no notice of the asbestos that was present. Unfortunately for BNSF, the record unequivocally demonstrates that from a very early point in the development of the vermiculite resource, the Railroad took a deep and special interest in the Libby operations. Based only on a limited sampling of documents currently available to counsel, we can demonstrate that for the ensuing 60 plus years, BNSF played a central role in the vermiculite operations in Libby that far exceeded a relationship that could feasibly be described as that between a common carrier and a shipper. While BNSF transported the entirety of the mined payload of Vermiculite Mountain, amounting to more than 80% of the world’s supply of vermiculite ore, out of downtown Libby on behalf of these companies, BNSF also sold land to Grace and leased land and rail facilities to Grace for a negligible amount. Similarly, Grace leased and sold land to BNSF in furtherance of their common design of profiting from the export of asbestos laden vermiculite. Grace and BNSF granted each other easements and access agreements on/across their respective adjoining properties; BNSF took upon itself to perform economic analyses of the vermiculite operations; BNSF took part in developing new uses for vermiculite products and assisted in marketing the vermiculite product to various customers; BNSF funded geologic surveys of the vermiculite deposit; BNSF engaged in several of its own geo-chemical samplings/analyses of the vermiculite ore and associated constituents; BNSF and Grace executives had close personal relationships, and BNSF oversaw dust control, safety, construction and modifications of the Grace shipping facilities.

By 1926, the Railroad and Zonolite were engaged in a plan to locate an additional vermiculite loading facility (the River Loading Facility) on the Railroad right of way across from Rainey Creek Road, a plan that was not realized until 1949. See e.g. 11/30/1926 Flathead Monitor Article; 6/9/1927 Western News Article.

Each of W.R. Grace's shipping, export, and import related facilities were closely associated with the Railroad and received special involvement of the Railroad in their operations. These facilities included Grace's River Loading Point, Downtown Export Plant, and their downtown import dock and fuel/oil facility.

Emblematic of Grace and BNSF acting in concert was the River Loading Point.²⁶ As succinctly stated in correspondence between BNSF and Grace, "These loading facilities are as much a part of your business as they are of ours." (BNSF HHP 000035). The River Loading facility was constructed and operated throughout its existence on BNSF property for which Grace initially paid a \$10.00 annual rental fee. See River Loading Lease Agreement 1 – April 1950. This amount increased minimally over the subsequent decades. See e.g. River Loading Lease Agreement 2 – September 1956; BNSF HHP 000226, increasing River loading lease to \$25.00 per month in 1984. BNSF and W.R. Grace carried a series of "Owners Landlords and Tenants" insurance policies which covered the River Loading site, and named BN as the insured. See, e.g., River Loading insurance policy documents. The River Loading Point was excavated out of the hillside adjacent to the mainline of the railroad and consisted of the Zonolite Siding track, the W.R. Grace conveyor and loading equipment, a storage shed and a parking area. The construction of the River Loading Point siding, with the exception of clearing and grading, was approved and paid for by BNSF. See 9/13/ 1949 Letter from J.M. Budd to F.J. Gavin. BNSF oversaw all construction of and modifications to the River Loading equipment and was responsible for inspecting and maintaining the siding track. This included reviewing and approving plans for all River Loading Point dust control equipment prior to its installation. See e.g. Railroad Dust Control Approval 3/9/1962; 3/30/1962; 1/21/1971; and 11/10/1977. In requesting BNSF's review and approval of the 1971 additional dust control facilities, Grace informed BNSF that they were being installed to "comply with Air Pollution Control Regulations in the state of Montana." After a BNSF derailment destroyed the River Loading Point loading equipment in 1979, BNSF again reviewed and approved the new River Loading Point construction plans. Grace and BNSF were in constant daily contact to ensure that cars were available for River Loading, in picking up the cars when full and bringing them back to the Libby Railyard, in weighing the cars before and after filling, in inspecting the cars for leaks, in securing hopper hatches, and in attaching the cars to outbound freight trains.

While the chain of title for Grace's downtown export and expanding plant is complex, it appears that the original Railyard loading facility straddled the line between Libby Railyard property and the adjoining properties.²⁷ In November of 1938, the Zonolite Company acquired

²⁶ The Universal Insulation Co., formerly the Vermiculite and Asbestos Co. initially acquired the land across from the Rainey Creek screening plant in 1934 with plans to build a tram across the Kootenai River to access the GNR's main line. This area would eventually be adjacent to the River Loading Point and provide the access thereto. Once the River Loading Point was in operation, this property also served as a dumping point for the excess vermiculite spilled during operation of the River Loading Point.

²⁷ See Sanborn Fire Maps; Chain of Title – EDC Business Park; Chain Sheet – EDC Business Park.

ownership of the property owned by the Railroad for one dollar²⁸ as well as those properties owned by the adjoining landowners.²⁹ Of the four sidings which Grace used in their downtown export activities, three were owned by BNSF. See 1/18/1983 Letter from Grace to the Montana Department of Revenue. BNSF kept the spur tracks stocked with boxcars for vermiculite loading, a process which required daily communications between the Grace and the Railroad. Once the boxcars were loaded, BNSF was responsible for picking them up, inspecting them (BNSF_HHP_000626), weighing them and attaching them to outbound freight trains.³⁰

Special relationship between BNSF and Grace: By 1926, the Railroad was engaged in analyses of the potential uses and economic value of the vermiculite deposit and published an article on the subject authored by Libby Great Northern Agent E.M. Boyes, which provides:

A large and growing market has been established for the mineral; and at present and probably in the future, the only means of transportation for this immense tonnage will be over the Great Northern Railway on the longer part of its journey to various points for fabrication. As new markets develop, greater and greater quantities will be moved, assuring the Great Northern Railway a permanent tonnage of vast proportions.

This new enterprise on the Great Northern is not only of interest to the railway and the community in which the deposit occurs, but is of national importance in its economic value. As illustrating the potentialities in the investigation and development of the non-metallic mineral resources lying along the Great Northern the story of Zonolite can not be too widely advertised.

1926 GNRR Semaphore Article. See also e.g. Publication entitled “Many Uses Found for Zonolite” summarizing a 1926 GNRR chemical geological analysis of the Libby Ore. In 1954, the Railroad published an article in the Burlington Zephyr touting the beneficial uses of the Libby vermiculite, discussing the revenue BNSF had garnered through its export and explaining the “Great Northern Railroad has cooperated with this producer since the plant establishment ...” 1954 Zephyr Article.

1953 correspondence between GNRR and Grace accurately describes the relationship between these companies in regards to the Libby operations; “Ever since the introduction of vermiculite as a commercial mineral, the Great Northern Railway Company and the Zonolite Company have been partners in the promotion and development of vermiculite ore as an article of commerce.” 7/31/1953 Letter from A.T. Kearney to J.M. Budd. Later that year GNRR interoffice correspondence discusses whether vermiculite shipping rates “should be the lowest possible rates the GNRR could establish as their part in the partnership between the industry and the railroad in developing over the years a movement of the estimated 300,000,000 tons which

²⁸ See Quit Claim Deed from GNRR to Zonolite – November 1938, referencing Zonolite’s adverse possession of the property for more than thirty years prior.

²⁹ Throughout the ensuing period of Grace operations in Libby the Export facility adjoined the Railyard and had shared spur tracks which ran from the Railyard to the facility. See Export Plant Site Plan.

³⁰ Pursuant to these operations, BNSF and Grace granted each other various access agreements and easements onto and across their respective properties.

Zonolite has in sight at Libby” and concluded that “in order to continue our long-established policy of working with Zonolite as closely as possible, the matter was left with the understanding both the industry and the railroad would make various tests along the lines of rate measures ...” 10/20/1953 Letter from C.E. Finley to J.M. Budd. This special relationship between the companies is borne out throughout the years through various documents. For example, in 1959 the Railroad, in conjunction with Zonolite Officers, performed an economic analysis of the Zonolite vermiculite operations. 1959 GNRR economic analysis and report on Zonolite. Later that year, C.E. Finley of the GNRR makes his point that the “studies being performed by the Department of Economic Research” were inadequate and needed to be revisited and illustrated the special role the Railroad too in vermiculite production by noting:

We have kept the Zonolite Company in competitive alignment with Perlite from California and we have met the problem of market competition on aggregate grade of vermiculite throughout the eastern part of the United States as it is presented by perlite and also by the deposits of vermiculite operated by the Zonolite Company in South Carolina which is located much closer to the eastern markets.

6/3/1959 Letter from C.E. Finley to R.W. Downing. In 1964, GNRR met with W.R. Grace to explore accessing overseas markets for their vermiculite products by performing analyses of the markets, directing them to available sea ways and foreign ships, and offering the potential use of GNRR ore docks. See 4/17/1964 Letter from V.P. Brown to C.E. Finley and attachments. See also 2/27/1963 Letter from C.E. Finley to J.M. Budd discussing a prior meeting with W.R. Grace, their plans to export vermiculite ore to European markets, and Grace’s awareness “of the service we give them and [stressing] how close our relations have been with them.”

BNSF’s promotion of the vermiculite product and their assistance in developing further uses of the ore material continued throughout the period of active mine operations. See e.g. 1963 chain of correspondence documenting efforts by the Railroad’s geologist and Mineral Research and Development Department to develop additional uses for unused fractions of the vermiculite ore; 1961 correspondence regarding “byproduct” problem (with summary transcription) discussing the GNRR Mineral Research and Development’s ideas for potential markets and uses of the vermiculite mine byproduct; GNRR Great Resources Publication discussing Zonolite’s vermiculite and geologic and analytic work being done on the topic. In addition to the close business relationship between BNSF and Grace, BNSF and Zonolite/Grace management and executives maintained close personal relationships throughout their cooperative engagement in the Libby vermiculite operations.³¹

III. LEGAL ANALYSIS

Libby claims against BNSF are based upon multiple theories of liability.³² Highlighted here are the elements of Montana law and facts of this case that bear specific attention. These descriptions of the applicable law and the proof will be further developed after discovery and

¹ See e.g. 12/28/1961 GNRR Letter to Zonolite; 11/26/1968 letter from Grace to GNRR – Boyes’ retirement; 3/19/1956 letter from GNRR to Zonolite.

³² These include negligence, premises liability, attractive nuisance, negligence per se, nuisance, trespass, and strict liability for abnormally dangerous activity.

with support from Plaintiffs' expert witnesses.

A. Selected Causes of Action, Standards of Care, and BNSF Breaches of Duties.

1. General Negligence and Negligence Per Se

As demonstrated above, we will have little difficulty in demonstrating that 1) the vermiculite ore shipped out of Libby by BNSF contained extremely toxic LAA, 2) BNSF's downtown Libby Railyard and its other properties in Lincoln County were extensively contaminated with Libby vermiculite and attendant LAA, 3) BNSF activities caused substantial disturbance of the vermiculite ore resulting in the production of significant amounts of airborne LAA containing dust in close proximity to Lincoln County homes, businesses and public places throughout the decades of vermiculite shipping operations, 4) BNSF was aware of the hazards presented by exposure to airborne asbestos, including the principle of bystander exposure, from a very early point, and 5) BNSF in particular was aware from a very early stage that Libby vermiculite contained asbestos.

The conditions on BNSF's property and its knowledge of asbestos imposed common law and statutory duties upon BNSF that extended protections both to BNSF employees and the residents of Lincoln County. The record shows that, prior to the EPA involvement post 2000, BNSF took no measures to investigate or prevent the production and spread of asbestos containing dust at any of their Lincoln County facilities in violation of these duties. As to causation our experts will establish that BNSF's actions in Lincoln County were a substantial factor in bringing about the serious injuries incurred by the Libby Claimants. In Montana, this is sufficient to prove our negligence claims thereby establishing BNSF's liability for the Libby Claimants' injuries. MPI2d 2.08; *Busta v. Columbus Hospital*, 276 Mont. 342, 916 P2d 122 (1996).

The condition and location of BNSF's facilities, coupled with its knowledge regarding Libby asbestos, imposed upon it duties including, but not limited to the following:

- a) The duty to prevent hazardous asbestos on its property from escaping and entering on nearby residential, commercial and public properties where it was inhaled by Libby Claimants.
- b) The duty to meet reasonable industrial hygiene standards of the time which required BNSF to inspect for hazards, prevent such hazards, protect potential receptors from being exposed to those hazards, warn their employees and the community of Libby of the hazard of asbestos dust generated by its operations, and to perform medical monitoring of employees working around a known hazard. BNSF had an industrial hygiene department and was particularly aware of the hazard presented by asbestos exposure. However, the Director of Industrial Hygiene for BNSF (Liukonen) testified that as far as he knew, BNSF never made any attempt to evaluate the risk posed by the Libby vermiculite. BNSF Manager of Industrial Hygiene (McCaskill) admitted that had BNSF been aware of the presence of asbestos in the vermiculite, it would have been unacceptable conduct not to warn its workers. Deposition of Gerald McCaskill, p. 114.

- c) The duty to ensure that river loading dust control facilities were sufficient to prevent the spread of LAA dust. BNSF undertook oversight and pre-approval of all dust control facilities at the river loading point. BNSF was explicitly aware that these facilities were supposed to control air borne pollution at the site (1/21/1971 Dust Control letter). BNSF breached their duty by approving the insufficient and unreliable dust control facilities throughout the period of shipping activities at River Loading.
- d) The duty to adhere to its own safety standards. See e.g. BNSF Responsibilities for Safety:

Provide safety and healthful working conditions to the maximum extent practicable for all employees. ...

To instruct [all] employees concerning the hazards of his job, and how to work safely to avoid injury. ...

Supervisors should always be alert for ... lack of or inadequate guards or safety devices, poor housekeeping hazards, and hazardous atmospheric conditions. ...

WHAT TO INSPECT:

1. Atmospheric conditions, e.g. dusts, gasses, fumes, sprays...
10. Personal Protective Equipment , e.g. hard hats, safety glasses, safety shoes, respirators, etc

See also 9/11/1981 BNSF correspondence attaching Respiratory Protection Program. BNSF ignored these standards as to asbestos in Lincoln County.

- e) The duty to protect and educate its workers with respect to the hazards of asbestos exposure and exposure to other toxic materials. BNSF's worker education program in this regard was non-existent and inadequate and in violation of industrial hygiene standards into the 1990s. Had BNSF properly protected their workers, they would have secondarily protected the Libby community from foreseeable damage resulting from the asbestos dust hazard they created.
- f) The duty to conform operations to existing knowledge. BNSF violated contemporary standards of care by failing to alter its work processes, in accordance with existing knowledge, to environmentally control hazards from asbestos dust created by its operations. BNSF failed to adequately enclose or isolate its work processes. BNSF failed to control the hazardous dust generated by its operations and failure to prevent dispersion of the dust at its source by employing recognized asbestos dust suppression techniques.
- g) The duty to employ proper housekeeping techniques. Consistent with industrial

standards of care, BNSF should have employed proper housekeeping in its operations. High levels of toxic dust existed on many work surfaces which were not properly cleaned, and as a result asbestos dust became re-entrained into the air during normal work activities. As a result, BNSF allowed further dispersion of asbestos dust throughout its operation and beyond. Given BNSF's knowledge of asbestos in the vermiculite ore, its poor housekeeping violated applicable standards of care.

- h) The duty to comply with relevant federal regulations and federal standards of care as well as state laws, regulations and standards that do not conflict with federal law. Failure to comply with such laws and regulations can be used to establish a claim of negligence per se and/or establish the breach of a common law duty.
- i) The duty to take reasonable measures to exclude community members from its property. Scores of Lincoln County residents engaged in activities in and around the vermiculite located on BNSF properties in Lincoln County. They similarly obtained vermiculite ore for use in their homes, yards and gardens from piles located on and around BNSF property. BNSF took few if any measures to exclude these individuals from their property. See e.g. Baseball Field at Zonolite 2 (note children playing on ramp entering Railyard).

By failing to comply with any of the above duties, BNSF negligently spread asbestos-contaminated vermiculite throughout Lincoln County during the entire duration of vermiculite operations in Lincoln County. In addition to these general negligence principles, several more specific negligence theories apply.

2. Premises Liability

BNSF carried on its vermiculite related actions on its property in Lincoln County, which lies in close proximity to various residential, commercial and public properties. BNSF, W.R. Grace, and their respective predecessors in interest worked in close cooperation to produce and distribute the vermiculite product. Parts of Grace operations were located on BNSF property and vice versa. These entities granted each other easements, leased property to each other and worked together to construct the vermiculite export facilities. Their activities involved direct insurance agreements with one another. See e.g. Zonolite Siding Insurance Agreement 4/14/1977, Affidavit of James Roberts 2-8-2007. These activities, management practices, and property interests subject BNSF to theories of premises liability to persons both on and off BNSF's Lincoln County property.

The law in Montana is clear the "every person is bound, without contract, to abstain from injuring the person or property of another or infringing upon any of his rights. Section 28-1-201, MCA. And,

Except as otherwise provided by law, everyone is responsible not only for the results of his willful acts but also for an injury occasioned to another by his want of ordinary care or skill in the management of his property or person except so far as the latter has willfully or by want of ordinary care brought the injury upon

himself.

Section 27-1-701, MCA (emphasis added). “The possessor of the premises has a duty to use ordinary care in maintaining the premises in a reasonably safe condition and to warn of any hidden or lurking dangers.” *Richardson v. Corvallis Pub. Sch. Dist. No. 1*, 286 Mont. 309, 320-22, 950 P.2d 748, 755-56 (1997).

These principles are interpreted in Montana to impose liability on property owners who fail to remedy, or to warn of, dangerous conditions emanating from their property. The Montana Supreme Court has cited to various sections of the Restatement (Second) of Torts dealing with this situation, including §§ 364, 370 and 371. § 364 provides as follows:

A possessor of land is subject to liability to others outside of the land for physical harm caused by a structure or other artificial condition on the land, which the possessor realizes or should realize will involve an unreasonable risk of such harm, if

(a) the possessor has created the condition, or

(b) the condition is created by a third person with the possessor's consent or acquiescence while the land is in his possession, or

(c) the condition is created by a third person without the possessor's consent or acquiescence, but reasonable care is not taken to make the condition safe after the possessor knows or should know of it.

Restatement (Second) of Torts § 364 (1965). This section is cited with approval by the Montana Supreme Court in *Burk Ranches, Inc. v. State*, 242 Mont. 300, 304, 790 P.2d 443, 445 (1990), where it held “[t]he State admitted liability for the collapse of the dam apparently relying on a landowner's duty to warn about, and make safe, hazardous conditions. See Restatement (Second) of Torts §§ 364, 370 (1965).” The Burk Court also relied upon Restatement (Second) of Torts § 370 (1965), which provides:

A possessor of land who creates or permits to remain on the land an excavation or other artificial condition so close to land in the possession of another that the possessor should realize that it involves an unreasonable risk of physical harm to others accidentally coming in contact therewith while lawfully using the adjacent land, is subject to liability for physical harm thereby caused to them, if the condition is one of which they neither know or should know and the possessor does not exercise reasonable care to warn them of it.

Montana Courts will apply these provisions to BNSF, as evidenced by the Montana Supreme Court's prior imposition of the same duty on a lessor who was not even in control of the property at issue:

As a general rule, a lessor is under no duty “to anyone to look after the premises or to keep them in repair, and is not responsible, either to persons injured on or off

the land for conditions which develop or are created by the tenant after possession has been transferred.” ... However, we have noted an exception to this general rule, as stated in the Restatement (Second) of Torts § 379A, which we have cited as persuasive authority:

A lessor of land is subject to liability for physical harm to persons outside of the land caused by activities of the lessee or others on the land after the lessor transfers possession *if but only if*

(a) the lessor at the time of the lease consented to such activity or knew that it would be carried on, and

(b) the *lessor knew or had reason to know that it would unavoidably involve such an unreasonable risk, or that special precautions necessary to safety would not be taken.*

Knapton ex rel. E.K. v. Monk, 2015 MT 111, ¶ 13, 379 Mont. 1, 347 P.3d 1257.

The Montana Supreme Court has also previously demonstrated its willingness to impose premises liability upon a party who allows a potentially hazardous agent to escape from their property. *See e.g., Larson–Murphy v. Steiner*, 2000 MT 334, ¶ 104, 15 P.3d 1205 (citing Restatement (Second) of Torts, § 379A (1965) and holding that livestock owners had a common law duty of reasonable care to keep their animals from wandering onto highways despite open range status of the land and a statute to the contrary.

Here, BNSF conducted activities and created the artificial conditions, including vermiculite shipping sidings and associated facilities as well as created airborne dust containing substantial amounts of toxic asbestos fibers. BNSF was aware of the presence of asbestos in the vermiculite, the ability for the asbestos to become suspended in the air column and to travel with the wind, and of the hazardous nature of asbestos. Because of this knowledge, BNSF should have realized its activities involved an unreasonable risk of physical harm to both those on and outside of its property and taken appropriate steps to warn of and control the hazardous condition. Having failed to do so, BNSF is liable.

3. Attractive Nuisance

In addition, “[t]he doctrine of attractive nuisance is recognized in Montana and we have recognized the Restatement (Second) of Torts § 339 as setting forth the elements necessary to establish an attractive nuisance.” *Limberhand v. Big Ditch Co.*, 218 Mont. 132, 137, 706 P.2d 491, 494 (1985). § 339 Restatement (Second) of Torts provides as follows:

A possessor of land is subject to liability for physical harm to children trespassing thereon caused by an artificial condition upon the land if

(a) the place where the condition exists is one upon which the possessor knows or has reason to know that children are likely to trespass, and

(b) the condition is one of which the possessor knows or has reason to know and which he realizes or should realize will involve an unreasonable risk of death or serious bodily harm to such children, and

(c) the children because of their youth do not discover the condition or realize the risk involved in intermeddling with it or in coming within the area made dangerous by it, and

(d) the utility to the possessor of maintaining the condition and the burden of eliminating the danger are slight as compared with the risk to children involved, and

(e) the possessor fails to exercise reasonable care to eliminate the danger or otherwise to protect the children.

Toxic piles of asbestos laden vermiculite were located on BNSF property immediately adjacent to the Libby recreational complex, which included ball fields, fishing access, tennis courts, and the public swimming pool. Not surprisingly, a high percentage of individuals played as children in the raw vermiculite ore located on BNSF property and on co-mingled BNSF/Grace property located around downtown Libby at the BNSF Railyard. *See, e.g., Peipins et al.* p.1755 (describing 29 Libby exposure pathways, and finding that 2 of the 3 most common exposures occurred at the baseball fields and in the piles on and adjacent to BNSF Railyard property).³³

As set forth above, BNSF most certainly had reason to know of the risk of serious bodily harm to these Libby children. Tragically, BNSF did nothing to eliminate the danger, warn of the hazard, or otherwise protect the children.

4. The Libby Claims are not preempted.

Should BNSF argue that the Libby claims are preempted by federal regulation set forth pursuant to the Hazardous Materials Transportation Act (HMTA) or the Federal Railroad Safety Act (FRSA) then:

It is important to begin any discussion of preemption with the recognition that both the United States Supreme Court and this Court have consistently held that preemption is not easily favored. “Because the States are independent sovereigns in our federal system, we have long presumed that Congress does not cavalierly pre-empt state law causes of action. In all pre-emption cases, ... we start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress.”

Reidelbach v. Burlington N. & Santa Fe Ry. Co., 2002 MT 289, ¶ 21. Preemption can only lie if

³³ Lucy A. Peipins, *Radiographic Abnormalities and Exposure to Asbestos-Contaminated Vermiculite in the Community of Libby, Montana, USA*, *Environmental Medicine, Environmental Health Perspectives*, Vol. 111, No. 14, (November 2003).

state law directly conflicts with federal regulation or “if federal law so thoroughly occupies a legislative field ‘as to make reasonable the inference that Congress left no room for the States to supplement it.’” *Pacific Gas & Elec. Co. v. State Energy Resources Conservation and Dev. Comm’n*, 461 U.S. 190, 204 (1983).

While the HMTA regulates the transport of “any material or product containing asbestos that has commercial value because of its asbestos content,” the Act is inapplicable to the Libby claims because neither vermiculite ore nor the contaminant LAA it contained has ever been regulated under the Act as a hazardous material:

The standards as herein proposed would only apply to the transportation of what are generally regarded as milled or crude asbestos fibers, but would exclude asbestos contained in a natural or artificial binding-material and manufactured products containing asbestos.

49 C.F.R. § 172.102(c)(156). See also EPA 1981, p. 11, “This regulation is not applicable to asbestos-contaminated vermiculite.”; *Wearing v. BASF Corp.*, 146 F.Supp.2d 675, holding that state common law claim regarding the transport of potassium metabisulfite was not preempted by HMTA because it is not a listed hazardous material under the Act.

The FRSA similarly fails to preempt the Libby claims. The language of the preemption provision within the FRSA (49 U.S.C.A. § 20106) dictates that, to preempt state law, a federal regulation must cover the same subject matter, and not merely touch upon or relate to that subject matter. See *Shanklin*, 529 U.S. 344 (2000). Courts interpret this to mean that to prevail on the claim that the regulations have preemptive effect, BNSF must establish that a specific FRSA regulation substantially subsumes the subject matter of the relevant state law. Courts are very hesitant to reach this conclusion.³⁴ The FRSA makes clear that it does not preempt the entire field of railroad safety and security. See *Tolentino v. Parcel Serv., Inc.*, 2001WL 92201, 3 (D. Mass. 2001); *People v. Union Pac. R.R. Co.*, 47 Cal.Rptr. 3d 92, 114 (Cal. Ct. App. 2006), the “FRSA addresses a number of particular safety aspects of railroad activity but does not speak to the transportation of dangerous materials or to the discharge of such materials into the environment.” Further, the FRSA permits simultaneous state and federal regulation so long as it is not incompatible with the federal regulation. BNSF can point to no FRSA regulation relevant to the allegations supporting the Libby claims or specifically regarding the discharge of hazardous substances into the air and onto surrounding properties. As such, the FRSA will not act to preempt the Libby claims.

³⁴ See e.g. *Strozyk*, 358 F.3d at 273, applying strict limitations on the application of preemption even when a federal regulation addresses the general topic of the state tort law claim – “The bare mention of [conditions such as sight distance] does not indicate an intent to regulate those conditions.”; *Mickelson v. Montana Rail Link*, 299 Mont. 348 (2000) “FRSA preempts negligence claims only insofar as they assert that the train was travelling at an excessive speed” and “does not bar suit for breach of related tort law duties, such as an duty to slow or stop a train to avoid a specific individual hazard.”; *MD Mall Associates, LLC v. CSX Transportation Inc.*, 715 F.3d 479 (Third Circuit 2013), FRSA regulation requiring that a railroad’s drainage facilities “under or immediately adjacent to” the track “be maintained and kept free of obstruction,” did not preempt neighboring landowners claim based on water being diverted from trackside ditch into its parking lot - “Given that the FRSA provides no express authorization for disposing of drainage onto an adjoining property, the presumption must be that the state laws regulating such action survive.”

5. Strict Liability—Abnormally Dangerous Activity

In Montana “everyone must use his property as to not injure that of his neighbor.” *Dutton v. Rocky Mountain Phosphates*, 151 Mont. 54, 67, 438 P.2d 674, 681 (1968). In *Dutton*, the Montana Supreme Court set forth the legal standard applicable to abnormally dangerous activities, adopting the rule from the seminal case of *Rylands v. Fletcher*, (1866, Eng.) LR 1 Exch. 265, aff. LR 3 HL 330, 1 ERC.:

[T]he true rule of law is, that the person who, for his own purposes brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and if he does not do so, is prima facie answerable for all the damage which is a natural consequence of its escape.

Dutton, 151 Mont. at 65, 438 P.2d at 680 (quoting *Rylands v. Fletcher*). In other words, those who carry out abnormally dangerous activities causing harm to neighboring people or properties are strictly liable for damages. *Dutton*, 151 Mont. 54, 438 P.2d 674; *Matkovic v. Shell Oil Co.*, 218 Mont. 156, 707 P.2d 2, (1985); *Sunburst School Dist. No. 2 v. Texaco*, Cause No. CDV-01-179. “The maxim, one must so use his rights as not to infringe upon the rights of another, must be upheld by preserving the absolute right to recover judgment for damages wherever substantial injury is shown.” *Dutton*, 151 Mont. at 67-68, 438 P.2d at 681.

In addition to the determination of abnormally dangerous activity under the *Rylands* and *Dutton* standard, the Montana Supreme Court looks to § 519 of the Restatement (Second) of Torts. See *Matkovic v. Shell Oil Co.*, 218 Mont. 156, 707 P.2d 2 (1985); *Chambers v. City of Helena*, 2002 MT 142, 310 Mont. 241, 49 P.3d 587.

Noting the similarities of the Restatement approach to that employed in *Dutton*, the *Matkovic* Court applied § 519 holding:

(1) One who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.

(2) This strict liability is limited to the kind of harm, the possibility of which makes the activity abnormally dangerous.

Matkovic, 218 Mont. at 159, 707 P.2d at 3-4.

The law of strict liability does not contemplate termination of all abnormally dangerous industrial activity. Similar to the decision in *Dutton*, § 519 vests discretion for continued operation with an industrial operator. However, if an operator elects to continue operation and receive the corresponding economic benefit, § 519 will require the operator rather than the effected bystander or landowner “to pay its way by compensating for the harm it causes, because of its special, abnormal and dangerous character.” § 519, comment d.

In making the determination as to whether a particular activity is abnormally dangerous, the *Chambers* Court has instructed that the factors set forth in § 520 of the Restatement (Second) of Torts (“§ 520”) be considered:

- (a) Whether the activity involves a high degree of risk of some harm to the person, land or chattels of others;
- (b) Whether the gravity of the harm which may result from it is likely to be great;
- (c) Whether the risk cannot be eliminated by the exercise of reasonable care;
- (d) Whether the activity is not a matter of common usage;
- (e) Whether the activity is inappropriate to the place where it is carried on; and
- (f) The value of the activity to the community.

Chambers, ¶ 16. The *Chambers* Court went on to say:

In determining whether the danger is abnormal, the factors listed in clauses (a) to (f) of this section are all to be considered, and are all of importance. Any one of them is not necessarily sufficient of itself in a particular case and ordinarily several of them will be required for strict liability. On the other hand it is not necessary that each of them be present, especially if others weigh heavily. Because of the interplay of these various factors, it is not possible to reduce abnormally dangerous activities to any definition. (Emphasis added.)

Chambers, ¶ 21, quoting § 520, Comment f.

“Whether the activity is an abnormally dangerous one is to be determined by the court, upon consideration of all the factors listed in [§ 520], and the weight given to each that it merits upon the facts and evidence.” *Chambers*, ¶ 18, quoting § 520, Comment l.

The Court explained that “courts look to the character of the activity in question, the place and manner in which it is maintained, its relation to its surroundings and customs of the community, and the natural fitness or adaptation of the premises for the purpose.” *Chambers*, ¶ 21 (citing *Dutton v. Rocky Mountain Phosphates*, 151 Mont. 54, 438 P.2d 674 (1968) (emphasis added)). For an activity to be abnormally dangerous, the abnormal dangers may arise either from activities that themselves are unusual, “or from unusual risks created by more usual activities under particular circumstances.” § 520, Comment f (emphasis added).

While the Montana Supreme Court has yet to address the specific question of whether activities emitting deadly asbestos are abnormally dangerous, given its prior rulings and the specific factual situation here, there is good reason to expect Montana will follow suit with other courts that have. See, e.g., *United States v. Tzavah Urban Renewal Corp.*, 696 F.Supp. 1013, 1021 (D.N.J. 1988), citing to § 519 in holding that the imposition of strict liability was appropriate where the defendant engaged in the renovation of an old building with asbestos containing materials without utilizing proper dust control measures because the emission of asbestos constitutes an abnormally dangerous activity.

Moreover, the transport of hazardous material has been held to be an abnormally dangerous activity. Thus, in *National Steel Service Center v. Gibbons*, 319 N.W.2d 269 (1982), the Iowa Supreme Court held that the theory of strict liability for abnormally dangerous activities applied to the railroad common carrier in an action for damages sustained when tank cars loaded with propane gas derailed and exploded. Likewise, in *Siegler v. Kuhlman*, 503 P.2d 1181, 1187 (Wash. 1972), the Washington Supreme Court held that “hauling gasoline as cargo is undeniably an abnormally dangerous activity and on its face possesses all of the factors necessary for imposition of strict liability as set forth in the Restatement (Second) of Torts § 519...”

Thus, there is abundant authority for holding BNSF strictly liable not only for the storage of the hazardous asbestos contaminated material on its property but also for the transport of this hazardous material through the Libby community.

In sum, the Montana Court is empowered to rule, as a matter of law, that BNSF’s activities, including the transport, storage and resultant extensive leakage and entrainment of massive amounts toxic asbestos containing materials to the soil and air throughout the Libby area constituted an abnormally dangerous activity.

a. Common Carrier Defense

Although not adopted in Montana, BNSF may argue that Restatement (Second) of Torts § 521 provides a defense to our claim for strict liability for damage resulting from abnormally dangerous activity. § 521 provides:

The rules as to strict liability for abnormally dangerous activities do not apply if the activity is carried on in pursuance of a public duty imposed upon the actor as a public officer or employee or as a common carrier.

While some jurisdictions have adopted this section in regards to RR activities, many have declined to do so. See e.g. *Chavez v Southern Pacific Transp. Co.*, 413 F. Supp. 1203 (E.D. Cal. 1976) (declining to extend § 521 immunity to a railroad carrying government munitions that exploded in transit); *National Steel Service Center, Inc. v Gibbons* 319 N.W.2d 269 (Iowa 1982) (declining to accept the public policy duty exception of § 521 in holding a railroad carrier of propane tanks strictly liable for damages to warehouse); and *Siegler v. Kuhlman*, 81 Wash.2d 448, 502 P.2d 1181 (Wash. 1972) (finding no common carrier exemption for hauling gasoline upon the highway). Whether this section would be adopted by Montana courts has yet to be answered. However, the fact that the nearby States of California and Washington, which have similar jurisprudential traditions to that of Montana, have declined to do so is indicative of the probability that Montana would likewise decline as well.

Moreover, even if Montana were to adopt § 521, it only applies to actors operating in pursuance of a public duty imposed upon it as a common carrier. The Restatement expresses no opinion whether the exception would apply “when the activity is carried on without any public duty but is authorized or sanctioned by legislation.” As such, this section would not apply where the carrier has any level of control over whether or not, or to what extent, it would engage in the abnormally dangerous activity at issue. Here, while BNSF may argue that it was required to haul the ore, it undertook extensive additional activities in the furtherance of the vermiculite

operations that were not required of a common carrier and which ultimately caused the contamination at issue. BNSF went well above and beyond its public duty to haul the vermiculite by helping to develop uses for and market the material, leasing properties to Grace for a pittance, constructing sidings for the convenient loading of the material by Grace, and, most importantly, allowing Grace to construct its loading facility on BNSF property and overseeing the construction and dust control activities thereon. The River Loading Point was the origin of the great majority of LAA for which BNSF was responsible. Because BNSF was under no public duty to build this facility on its property, allow its continued operation, or to engage in their many other various voluntary vermiculite related activities, the public duty exception would not apply to injuries resulting therefrom.

6. BNSF's Deceptive Course of Conduct Regarding Asbestos.

Despite an undeniable early and in-depth understanding of the hazard presented by asbestos, how exposure is prevented, and the presence of asbestos in Libby vermiculite, BNSF chose to ignore and later sought to evade its problems regarding asbestos. Despite the Railroad's knowledge of the asbestos hazard in general, documented going back to the early 1930s (Alton Documents, the American Association of Railroad Conference Reports and other documents), and its knowledge of the asbestos content of the Libby product by the late 1920s, there is no evidence that BNSF ever engaged in any air or dust sampling, or the prevention of emissions from its rail cars or sidings in Libby. In fact, the record demonstrates that despite BNSF's knowledge that its activities were exposing people to deadly asbestos, BNSF chose a course of stonewalling to reduce its exposure to liability rather than seeking to protect people from exposure.

BNSF documents show that they were aware that asbestos creates a hazard whenever dust is produced during the life cycle of the product and that asbestos causes cancer.³⁵ Yet, it refused to properly address these issues.³⁶ A 12/18/1981 letter from J.J. Button to J.G. Edwards referencing an article entitled "Criminal penalties coming for concealing hazards," stated: "Sounds like some of us may end up penniless and behind bars. If it passes, all of our corporate officers need to be made aware."

Although BNSF has long maintained medical, industrial hygiene and safety departments, the managers and directors of these departments have testified that to their knowledge BNSF never conducted any studies to determine whether its workers were being exposed to asbestos in Libby, never instructed its employees to wear respirators while working with or around asbestos-containing materials and never made any attempt to evaluate the work that the workers in Libby were doing on a daily basis.

³⁵ See e.g. W.A. Marshall to A.M Skinner, March 26, 1979; Abbott Skinner to W. A. Marshall, March 29, 1979; 12/12/1983 letter to Thompson Matthews and Mears from Donald E. Engle, "The Regional Vice Presidents were advised regarding the health hazards relative to asbestos following the last regional staff meeting in St. Paul. It appears necessary that we take the next step and implement rules for the handling and working with asbestos which is found to be located in BN facilities."

³⁶ See e.g. 1/9/1984 BNSF Memorandum "In connection with development of policy regarding the removal and/or handling of asbestos at BN, I feel the matter has now reached the point where severe restrictions of communications are counterproductive and can soon result in loss of credibility when trying to present any favorable findings. OSHA has issued regulations for exposure to asbestos and BN, the same as any manufacturer and real estate holder, has a potential and significant problem."

BNSF documents demonstrate a long standing course of conduct of intentionally minimizing, ignoring and avoiding safety standards, rules and regulations.³⁷ By the 1970s OSHA promulgated regulations regarding asbestos and other chemical hazards in the workplace which included mandatory safety requirements, required employers to post OSHA signs and warnings, set forth exposure levels, required engineering controls to eliminate the hazards, set forth work practices for dealing with asbestos similar to what the railroad industry had itself recommended decades earlier, required methods of air monitoring for exposures, respiratory protection and fit testing, and medical monitoring of exposed workers. Asbestos was the first material regulated by OSHA. Throughout the years, BNSF has maintained a contentious relationship with OSHA in regards to safe practices on their premises by refusing to conform to regulations and going as far as refusing to allow the agency to enter onto Railroad property.³⁸ November 1978 BNSF correspondence discusses various OSHA citations being issued to railroads and provides:

We do not have the OSHA notice posted on our property except in the State of Minnesota. We have not been cited by OSHA inspectors at points other than Minnesota, with one or two exceptions, where OSHA has inspected our property due to employee complaint. These are rather minimal fines and believe it in our best interest not to post at this time.

In 1980, BNSF refused to allow OSHA inspectors on their property in Montana to investigate adequacy of respiratory protection and ventilation despite authority under a Federal Inspection Warrant and the order of a U.S. Magistrate. See 12/6/1980 Billings Gazette Article. Despite BNSF's well documented awareness and understanding of OSHA regulations and accepted respiratory safety practices in general, they typically refused to come into compliance, and in Libby followed this course of conduct by making no effort to classify or quantify the visibly obvious vermiculite dust issues present at the Libby Railyard, the River Loading Point or their rights of way throughout Lincoln County.

³⁷ See e.g. 4/19/1974 BNSF correspondence, reporting that BNSF "can no longer afford to sidestep the responsibility of training our supervisors, and our employees' supervisors in safety methods, as required by law"; 5/16/1975 BNSF correspondence discussing the "common weakness throughout our industry; that of training people for their positions" and discussing broadening safety training; 9/11/1981 BNSF correspondence discussing BNSF's citations for not having a Respiratory Protection Program; 5/10/1974 BNSF memorandum noting "It is not uncommon to find employees working at hazardous jobs while failing to wear protective equipment," or to "have no safety rule book" or protective equipment available to them and recognizing that it is "necessary to continually audit any operation to check for rules compliance by all employees"; 6/30/1976 BNSF memorandum discussing, among other issues, the practice of BNSF supervisors' use of "continual threat of dismissal for failure to comply with instructions even though they are contrary to safe practices."

³⁸ See e.g. 2/6/1975 BNSF correspondence discussing requirements of posting OSHA Act posters in BNSF facilities and declining to comply by recommending "no change be made in present BN policy," and that "we do not post the notice unless we get a lot of OSHA inspectors on the property. The thought here is that this poster may encourage more employees to write to OSHA on complaints. This has my concurrence." Later in 1975, the International Association of Machinists submitted a formal complaint and request for inspection to OSHA, almost exclusively regarded BNSF facilities, alleging "worker exposure ... to excessive dusts, fumes, vapors gases and soot [which] constitute continuous and cumulative health hazards producing systemic effects including the respiratory system." See 6/30/1975 Formal OSHA complaint. In this regard, BNSF noted that "the ventilation issue could have a major impact," "our safety audits seldom have items on ventilation" and "if the OSHA inspectors were to inspect the 69 work centers, they may find other health standards which do not comply and these areas may cause a major impact." 7/9/1975 BNSF correspondence.

B. Apportionment of Fault and Causation.

BNSF will not be able to apportion fault to W.R. Grace. Having filed for bankruptcy, W.R. Grace is beyond the jurisdiction of Montana courts. Therefore, no proof of fault against W.R. Grace would be permissible at trial. See § 27-1-703(6)(c), MCA; *see also Plumb v. Fourth Jud. Dist. Ct.*, 927 P.2d 1011 (Mont. 1996) (prohibiting the empty chair defense). An apportionment of fault among remaining available defendants will undoubtedly result in the determination that BNSF's negligence was greater than all others in leading to the Libby claimants' injuries and therefore, on this basis BNSF will be held jointly liable for all the claimants' damages.

Moreover, based on the facts outlined above, we are confident that we can establish that BNSF acted in concert with Grace in contributing to the Libby Claimants' injuries. BNSF is, thereby, jointly liable for all damages caused by the negligence of both entities. See § 27-1-703(3), MCA; § 876 of the Restatement (Second) of Torts (1979), adopted by Montana Supreme Court in *Sloan v. Fauque*, 239 Mont. 383, 748 P.2d 895(1989). As such, in those rare cases where a Claimant previously settled with Grace and proof of Grace's fault is potentially permissible, any jury verdict would only be subject to a *pro tanto* (dollar for dollar) reduction for any amounts received from Grace. See *Schuff v. A.T. Klemens & Son*, 2000 MT 357, ¶ 104, 303 Mont. 274, 307, 16 P.3d 1002, 1023; *Hulstine v. Lennox Indus., Inc.*, 2010 MT 180, ¶ 22, 357 Mont. 228, 234, 237 P.3d 1277, 1281, "When a joint tortfeasor settles with a claimant, the claimant's recovery against the remaining tortfeasor is to be *reduced* dollar-for-dollar by the consideration paid by the settling tortfeasor."

In any event Montana's "substantial factor" test for causation will control. In cases where the agency of injury or death is contributed to by a number of actors' tortious wrongdoing (e.g. various *sources* of airborne asbestos), Montana law makes causation a function of the rule of "legal cause," which the court has defined as "a cause which is a substantial factor in bringing about the injury." *Busta, supra*; *Rudeck v. Wright*, 218 Mont. 41, 709 P.2d 621 (1985); *Christofferson v. City of Great Falls*, (2003) 316 Mont. 469, 74 P.3d 1021, 2003 MT 189. This rule dictates that a defendant will not be absolved from liability simply because the conduct of one or more others would have been sufficient to produce the same result. If its actions are a substantial factor in causing the plaintiff's injury, the defendant will be held liable. Given the substantial contribution BNSF's activities had on the airborne asbestos levels in Lincoln County, there is no reasonable dispute but that their actions were a "substantial factor" in causing any given Libby Claimant's Asbestos Related Disease.

IV. LIBBY ARD

As previously communicated via my letter of 10/2/2015, there are 19 FELA Claimants among our 747 Round 2 Claimants. As to our 728 non-FELA Claimants, 146 are in categories 1-6. This includes 97 who have PFT results demonstrating a severe level of ARD, 27 with an asbestos related malignancy, and 22 who are deceased. Of the remaining non-FELA Claimants, 95 have moderate level disease on PFT and 480 presently have mild disease. Since Round 1 there has been a continued rate of Libby ARD diagnoses, which may be attributable to enrollment deadlines for Libby ARD medical programs coupled with the availability of free screenings, which prompted a great number of exposed individuals to seek review of their medical condition. Given that asbestos related disease has a typical latency period of 20 to 30

years, that vermiculite mining and BNSF's vermiculite shipping activities in Lincoln County ceased around 1990 (26 years ago), and that cleanup efforts began in 1999 (17 years ago), we expect that new diagnoses of Libby ARD will decrease significantly over the next several years.

As set forth below, Libby ARD is medically distinct from disease caused by exposure to other types of asbestos, rendering inapposite comparisons with chrysotile disease.

Libby Pleural Disease: Libby ARD initially manifests radiographically as pleural plaquing and/or a smooth, thin (typically under 5mm in thickness) layer of pleural thickening. Unlike other asbestos disease, this thickening is found in the parietal pleura, rather than the visceral pleura, and usually blends into adjoining tissue without circumscribed borders (lamellar pleural thickening). Dr. Albert Miller of the Mount Sinai School of Medicine describes this pleural pathology of Libby ARD: "Remarkably thin, smooth and non-dense, it is often not appreciated on x-ray (resulting in negative B readings) and even on CT scan using the mediastinal window view." Commentary, AJIM 57:1195-1196 (2014). This lamellar pleural thickening is better appreciated on CT scan than on chest x-ray.

In many cases of Libby ARD, this thin, smooth extended layer of pleural thickening virtually encases the lungs—*with little or no interstitial disease*—resulting in very significant decrements in lung function and even death. Interstitial disease is rarely observed at the beginning of the Libby disease process. As the disease progresses, plaquing becomes more prevalent and lamellar thickening increases in thickness and can ultimately reach 1cm or more. If interstitial disease is observed, it usually appears later in the disease process and is typically associated with the underlying pleural disease.

Blunting of the costophrenic angle is often not observed among those with Libby ARD, even among those with severe ARD and those who have died of the disease. *McLoud* (1985)³⁹ observed this as well, finding in 185 cases of diffuse pleural thickening that costophrenic angle obliteration "was not a consistent accompaniment of diffuse thickening." *McLoud* noted that blunting was often found where diffuse pleural thickening was due to effusions, but that, "it is rare when the appearance is due to confluent pleural plaques" (which was 25% of the 185 cases). (*Id.* at 16).

Parietal vs. Visceral Pleura: Libby ARD is primarily associated with thickening and plaquing of the **parietal** pleura. Other forms of ARD primarily manifest radiographically as interstitial fibrosis and **visceral** pleural fibrosis. Black et al (2014)⁴⁰. This important physiological difference correlates to the distinct radiographic manifestation, as well as the distinct physiology and symptoms associated with Libby ARD.

Progression: *Lockey et al.* 2015 reports that "exposure that includes LAA is associated with progressive radiographic changes at low [cumulative fiber exposure] levels, and these radiographic changes, including isolated [localized pleural thickening] based on HRCT/CT, are

³⁹ McLoud et al, Diffuse Pleural Thickening in an Asbestos exposed Population: Prevalence and Causes, AJR 1985; 144:9-18

⁴⁰ Black et al, Rapid Progression of Pleural Disease Due to Exposure to Libby Amphibole: Not Your Grandfather's Asbestos Related Disease, AJIM, 2014:1-10 (2014), Libby pleural thickening "progressively extends vertically along the inner border of the chest wall (the parietal pleura)."

associated with declines in spirometric values.”⁴¹

Radiographic progression was noted in 76% of Libby ARD subjects in the *Larson et al.* 2010 study.⁴² In contrast, chrysotile studies show much lower radiographic progression rates.⁴³

Libby pleural disease is likewise highly progressive clinically, with 76% of patients in the *Whitehouse* (2004) study showing some progressive loss of pulmonary function.⁴⁴ The *Whitehouse* (2004) study demonstrated average annual pulmonary function decrements among Libby ARD subjects of FVC 2.2% of predicted, TLC 2.3% of predicted, and DLCO 2.9% of predicted. This rate of pulmonary progression has not been observed among cohorts of subjects with chrysotile asbestos-related disease. See also *Lockey et al.*, p. 12 (“these decrements can be particularly relevant when potentially combined with other respiratory comorbidities that can occur over a person’s lifetime that can impact lung function.”)

Disability and Death: Libby ARD has resulted in a large number of patients in a small cohort who experience profound limitation in physical activity, and/or severe chest pain that usually requires narcotic medication. See *Black et al.* 2014, p. 8. The pleural pain commonly observed among Libby ARD patients is exceedingly rare among other asbestos exposed cohorts. Commentary, *AJIM* 57:1195-1196 (2014).

Among Libby ARD patients, the phenomenon occurs of pure pleural disease deaths in the absence of any radiographic findings of interstitial disease. This has not been observed in any other ARD cohort. Once diagnosed with pleural disease, with multiple pleural plaques or diffuse pleural thickening and a loss of lung function, the patient has a probability of progressive disease and early mortality due to ARD, commonly characterized by severe restrictive lung disease and episodes of hypoxia.

In Libby, a substantial component of those dying from ARD are members of the general population with no documented occupational exposure and only relatively low dose community exposures. This level of ARD death among community members has not been reported elsewhere.

Pulmonary Function Evidence: The severity of Libby ARD patients’ radiographic findings does not directly correlate to their degree of pulmonary dysfunction and disability. There are many examples of Libby patients with severely abnormal pulmonary functions, whose x-rays would not typically be considered radiographically severe. Because of this, the assessment or categorization of Libby ARD severity is best measured by pulmonary function abnormalities.

With Libby ARD, the pulmonary function factor that is most often affected due to Libby pleural disease is the DLCO (diffusion capacity), which appears to decrease more rapidly in

⁴¹ Lockey et al, HRCT/CT and Associated Spirometric Effects of Low Libby Amphibole Asbestos Exposure, *JOEM* 2015, 57:6-13.

⁴² Larson et al, Workers with Libby Amphibole Exposure: Retrospective Identification and Progression of Radiographic Changes, *Radiology*: Vol 255, Number 3, June 2010, p. 927.

⁴³ See Jones, *Brit J Ind Med*, 1989; 46:96-105 (1989) (31%); Gregor, *Am NY Acad Sci*, 1979 331: 147-156 (1979) (18%); and Becklake *Brit J Ind Med*, 36:23-28 (1979) (31%).

⁴⁴ Whitehouse et al, Asbestos-Related Pleural Disease Due to Tremolite Associated with Progressive Loss of Lung Function: Serial Observations in 123 Miners, Family Members, and Residents of Libby Montana, *Am J Ind Med* (2004) 46:219-225, p. 221.

many patients than any of the other lung function studies. Some Libby patients exhibit a severely reduced DLCO in conjunction with otherwise normal pulmonary functions. Clinical observation indicates that DLCO defect is the leading indicator of severity in the Libby cohort, and has the greatest correlation with shortness of breath and the patient's requirement for oxygen treatment. Often there is significant asbestos disease on CT scan or chest x-ray and only the DLCO is reduced, not the FVC or TLC. In *Whitehouse* (2004), average yearly lung function losses for all 127 subjects were FVC 2.2%, TLC 2.3% and DLCO 3.0%. Decline in DLCO was 30% greater than the other parameters measured ($0.7/2.3=30\%$). This rate of DLCO decline exceeds what has been observed elsewhere, and it does not appear that decline in diffusion capacity (DLCO) is as significant in cohorts with predominately chrysotile exposure.

Severe Libby ARD is typically manifested by significant physical limitation resulting from shortness of breath, dyspnea on exertion, hypoxia, and pleural chest pain. End-stage Libby ARD normally involves labored breathing, dyspnea and shortness of breath at rest, complete 24-hour dependence on oxygen care, 24-hour home health or hospital care, and ultimately death.

V. CONCLUSION

The record demonstrates that BNSF's activities in Lincoln County resulted in extensive contamination of the area with highly toxic LAA, and were a substantial factor in causing the Libby Claimants' ARD. Under Montana law, BNSF will be held jointly liable for the Libby Claimants' substantial damages.

We look forward to discussing these matters with you at further length at our upcoming mediation.

Yours sincerely,

McGARVEY, HEBERLING, SULLIVAN &
LACEY, P.C.



ROGER SULLIVAN

cc: Professor Francis E. McGovern, Mediator