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SUPERIOR COURT OF CALIFORNIA

COUNTY OF ALAMEDA

RICHARD AND PATRICIA DYHRMAN,	)	Case No. RG 07-355398
	)	
Plaintiffs,	)	DECLARATION DR. BARRY
	)	CASTLEMAN IN SUPPORT OF
vs.	)	PLAINTIFF'S OPPOSITION TO UNION
	)	CARBIDE CORPORATION AND
A.W. CHESTERTON CO., et al.,	)	MONTELLO, INC.'S MOTION FOR
	)	SUMMARY JUDGMENT
Defendants.	)	
	)	

I, BARRY CASTLEMAN, declare and state as follows:

BACKGROUND

1. My name is Barry I. Castleman. I received a Bachelor's Degree in Chemical Engineering from Johns Hopkins University 1968. I have a Master's Degree in Environmental Engineering, which was mainly in areas related to air pollution control from Johns Hopkins University, 1972. I have a Doctor of Science Degree in Health Policy from Johns Hopkins School of Hygiene and Public Health, 1985.

2. My professional experience goes back over 30 years in the area of asbestos and other occupational and environmental health problems. My field is occupational and environmental health

policy, which is a branch of Public Health, mainly oriented towards the recognition of risk factors and the prevention of disease from industrial activities.

3. My Doctoral degree was awarded for two years of course work, various examinations, and the writing of a doctoral dissertation. The course work was mainly in the areas of toxicology, epidemiology, biostatistics, physiology, and public health policy. These are the tools that are used to understand how the body works and can be damaged by toxic substances, how these effects can be identified by means of various studies of people, studies of animals experimentally exposed, etc.

4. My Doctoral thesis was, Asbestos: An Historical Case Study of Corporate Response to an Industrial Health Hazard, and is largely identical to a book published in 1984 by Prentice Hall Law and Business called Asbestos: Medical and Legal Aspects (now in its 5th Edition, 2004). My doctoral thesis is an historical review of the asbestos problem as a public health problem in society worldwide, but mainly in the United States. It encompasses a comprehensive review of medical literature of all kinds, as well as other literature available in libraries and published sources such as government publications, safety magazines, engineering journals, trade magazines, insurance publications, encyclopedias, popular magazines, and newspapers. The doctoral thesis also involved research based on unpublished government records. The government records included workers' compensation claims files where claims had been made by individuals alleging that they had asbestos-related diseases of the lungs, claims against various companies that were their employers, some of which companies were also manufacturers of asbestos insulation products these individuals has used in the course of their work.

5. In addition to published information of all kinds, I examined files, unpublished information available from the U.S. government archives, the archives of scientists and the archives of institutions that had worked for and with asbestos companies.

6. I have also looked at unpublished information which was obtained in legal discovery. This included trade association minutes, corporate documents, and testimony of corporate officials who were associated with asbestos hazards over the years – doctors, plant managers, executives, and other people who were aware of events that transpired.

7. In addition to published information and corporate knowledge that came primarily out of legal discovery, I have also interviewed numerous current and former leading officials in the field of industrial medicine and hygiene. They included physicians who were active in the field of occupational medicine, such as Harold Stewart, M.D., who first published on asbestosis in 1931, and Alfred Angrist, M.D., who first published on asbestos and lung cancer in 1942. Another, Dr. Wilhelm Hueper, was a leading United States authority in the field of occupational cancer and first director of the environmental cancer section of the National Cancer Institute. Dr. Harriet Hardy, Dr. Thomas Mancuso, Dr. Gerrit Schepers, and others I interviewed were involved in the area of asbestos and health over the past decades.

8. I have provided testimony to United States congressional committees concerning the hazards of asbestos and other toxic substances. I have also testified before United States congressional committees regarding the development of asbestos knowledge. I have been a paid consultant to the Office of Toxic Substances of the United States Environmental Protection Agency and have performed research on environmental asbestos hazards. I have performed consulting work for the United States Occupational Safety and Health Administration. In my research, I have reviewed thousands of publications and documents pertaining to asbestos-related disease and have interpreted and related the contents of the same. I have acted as consultant for The National Science Foundation and the European Commission. I have been a consultant to the World Bank on asbestos.

9. I have testified as an expert witness in over three hundred (300) cases throughout the nation on issues related to asbestos state-of-the-art and historical development of asbestos knowledge.

THE BODY OF KNOWLEDGE ABOUT ASBESTOS

10. The originally published reports in the era of the modern asbestos industry came at just before the turn of the last century, and the first reports in the English language were included in the annual reports of the chief inspector of factories and workshops in Great Britain. The report published in 1899, the report for the year 1898, talked about the observation of lung disease in individuals who had worked in asbestos manufacturing plants and about the “evil effects of asbestos dust.”

11. The medical literature of asbestos disease mainly developed after the publication of a case report in the British Medical Journal by Dr. Cooke, a pathologist in Britain in 1924. This was called, “Fibrosis of the Lungs Due to the Inhalation of Asbestos Dust.” Dr. Cooke reported on the death of a 33-year-old woman who had worked off and on in asbestos plants from the age of 13. According to Cooke, the scarring of her lung tissues was largely attributable to the inhalation of asbestos in the course of her work. There followed a number of other reports in British sources, and this is reflected as well in the United States in editorials of the Journal of the American Medical Association. In one on January 14, 1928, called “Pulmonary Asbestosis,” reference is made to Cooke’s case and other reports on the disease now called asbestosis. The Journal of the American Medical Association recommended that further attention be paid to this disease, as it may well be occurring in the United States. The Journal of the American Medical Association issued another editorial in 1930 about asbestosis, this time noting the asbestosis had become a compensable occupational disease in Great Britain under the workers’ compensation law. The Journal of the American Medical Association was believed to have been read by 80 percent of American physicians in those years, medical historians have written. Additionally, there were additional reports of asbestosis published in the British Medical Journal, which is in every medical library I have ever walked into. The reports mainly involved deaths of individuals who were verified as having asbestosis by autopsy.

12. In 1930, a report was published by a physician, Dr. E.R.A. Merewether, and an engineer named C. W. Price. Merewether and Price reported a survey that had been conducted by the Factory Inspectorate in England, including 363 asbestos workers who were actively employed. Of these individuals, 26 percent were found to have asbestosis. Merewether and Price reported that the people longest exposed had the highest prevalence of the disease: 80 percent in workers with 20 years or more in the industry. There were no cases of asbestosis in individuals with less than five years, and Merewether referred to that phenomenon that the disease was delayed in appearance and developed gradually over a period of years. It could in seven years be substantially developed in the most severe cases, but more often 11 years or more would elapse before the disease had become largely developed in exposed individuals. This is the time from the onset of exposure. Merewether urged that workers be “educated to a sane appreciation of the risk” to health posed by asbestos dust. Merewether’s 1930 writings on asbestosis are among those most often cited in the literature on asbestosis.

13. By 1932 there were 60 or more publications in print on asbestosis. These were noted by way of reference in a bibliography published by the International Labor Organization in 1932. These publications continued to emerge from many countries. The first cases of asbestosis in the United States were reported in 1930. Asbestosis was also described in an article in the trade magazine Asbestos in the United States in the March 1930 issue, amid numerous advertisements from asbestos mining and manufacturing companies.

14. In 1932, the first case of asbestosis in an asbestos product user was reported at a conference held by the Industrial Commission of Wisconsin, which published their proceedings. Here, Dr. Albert Russell of the United States Bureau of Mines described an individual who had worked maintaining the insulations on pipes in a government hospital and had been diagnosed as having asbestosis and had been compensated by the government for disability sustained from this asbestos condition. This is the first published product user case. There were other cases reported in

the United States in 1933 by Philip Ellman and also reported by Ellman in 1934 in The British Journal of Radiology. Wood and Gloyne reported in 1934 reported on cases of asbestosis including a boiler riveter who would have been exposed to asbestos because it was used as an insulation material on boilers. Wood & Gloyne's report was called "Pulmonary Asbestosis: A Review of 100 Cases." That was published in The Lancet, the world's oldest medical journal, in 1934. The Lancet is, like the British Medical Journal, a general medical journal published in England and available very widely in medical libraries in the English-speaking world. This article was widely cited in subsequent literature. Of the hundred cases of asbestosis they reported on, the shortest duration of exposure in any case was six months, in the case of two women who had worked in an asbestos plant.

15. Literature on asbestosis was substantially developed by 1935. The disease was shown to have a distinctive pathological appearance with asbestos bodies, types of scarring that would form around the asbestos fibers trapped in the lung tissues. This was commented upon a great deal by pathologists in the 1920s. The disease was shown to have an identifiable radiological appearance on chest X-ray distinctly different from such diseases as TB and silicosis. The disease was also characterized by shortness of breath, which would become more pronounced as the individual became more seriously affected by the disease.

THE PENNSYLVANIA AND PUBLIC HEALTH SERVICE STUDIES

16. In 1934 and 1935, the Industrial Hygiene Section of the Pennsylvania Department of Labor and Industry published a report on asbestosis in the asbestos fabricating industry in the state. This article was called Asbestosis, published by William B. Fulton and three of his coworkers at the Pennsylvania Department of Labor and Industry.

17. One-fourth of the workers examined had asbestosis. Their article included an impressive bibliography of 125 references to asbestos-related disease previously published in journals in the United States, England, France, Italy, Germany and other countries. Among the references cited

by Fulton, Dooley et al., were the historic 1930 report by Merewether and Price for the British government and the version published later that year in the US in the Journal of Industrial Hygiene. The Merewether reports made recommendations for the control of asbestos dust in asbestos plants, recommended periodic medical examinations of workers exposed to this dust and dust suppression measures in processes involving the use of asbestos, and noted the hazards of asbestos insulation work in shipyards. The Pennsylvania study was one of the first surveys of this kind in the United States similar to that which had been done by Merewether and Price and published in Great Britain and the United States separately in 1930.

18. The Pennsylvania study also included an effort to relate dose and response. The authors had sampled the exposure of the workers to dust in four asbestos plants, including one that produced asbestos containing insulation known as 85 percent magnesia, and found that, overall, average concentrations of dust could be broken down into three groups that varied from 4.64 million particles per cubic foot up to 44 million. Asbestosis was reported in all three groups, with the prevalence and severity of disease greater in the more heavily exposed groups. But no level of exposure was found to be free of the disease, including levels below 5 million particles per cubic foot. In summary, in the Pennsylvania study at least 25 percent of the workers were diagnosed as having asbestosis and levels of exposure even below 5 million particles per cubic foot were found to cause asbestosis

19. In 1938, a study similar to the Pennsylvania study was done by the Public Health Service, including an effort to account for workers who had been discharged before the Public Health Service was admitted to the North Carolina asbestos textile plants to do the study. An estimated asbestosis rate in the workplace was given as 27.5 percent. The report recommended that dust exposure in asbestos plants be limited to 5 million particles per cubic foot. This guideline was

recommended as a tentative occupational exposure limit, though it was noted that the Pennsylvania study had found cases of asbestosis at that level of exposure.

20. By the mid 1930s, cases of asbestosis were found not only among workers in asbestos fabricating plants, but also among users of some asbestos products, mainly insulation products such as these used by insulation workers.

ASBESTOS AND LUNG CANCER

21. In 1935, another aspect of the hazards of asbestos was identified with the publication of medical case reports of asbestosis in combination with lung cancer. The first such reports were published by Lynch and Smith in the United States in 1935 in the American Journal of Cancer and by Dr. Gloyne in Great Britain in Tubercle in two separate reports in 1935 and 1936. In these reports, the question was raised that chronic irritation of the lung tissues from asbestos might be producing cancer as well as lung scarring already well identified as an asbestos-related phenomenon.

22. There were additional reports of lung cancer in combination with asbestosis reported by Egbert and Geiger at Yale in 1936, and Nordmann in 1938. An abstract of this last publication appeared in the United States in the Journal of Industrial Hygiene & Toxicology, also in 1938. The article was entitled "The Occupational Cancer of Asbestos Workers." The German author, Nordmann concluded that asbestosis was definitely related to lung cancer, that lung cancer was in fact an occupational disease of asbestos workers. Various features of the six cases Nordmann knew of were tabulated to justify that. Nordmann noted, among other things, that the prevalence of lung cancer among autopsied victims of asbestosis was one in six both in Germany and Great Britain. This was very much higher than the prevalence of lung cancer in the general population, which tended to be more like 1 percent or several percent at most. The high rate of lung cancer among people dying with asbestosis would be a most consistent finding around the world.

23. There were additional publications of cases of lung cancer and asbestosis in 1939 in the United States and in 1941 and 1942 in Germany. Holleb and Angrist reported in the American Journal of Pathology on two individuals who had been pipe coverers (users of asbestos products) diagnosed at autopsy as having both asbestosis and lung cancer. These were the first cases of cancer and asbestosis in users of asbestos products published in the medical literature. Holleb and Angrist tabulated a total of 10 cases of lung cancer in combination with asbestosis that had been published in the United States, Britain, and Germany.

24. Articles linking asbestos and cancer appeared in the *Archives of Industrial Hygiene and Occupational Medicine* in the early 1950s. The March, 1952 edition of this journal contains an article by Dr. Wilhelm Hueper entitled "Occupational Cancer Hazards in American Industries." In the article, Dr. Hueper discusses the excessive incidence of lung cancer associated with asbestosis in a series of 235 documented cases of asbestosis.

25. Dr. Wilhelm Hueper is an important figure in the history of the knowledge of occupational cancer and in the development of the knowledge of asbestos hazards. In 1942, Dr. Hueper published a book on occupational cancer called Occupational Tumors and Allied Diseases, nearly 900 pages long. It included a lengthy section on asbestosis and cancer from asbestos, in which a large number of references from the United States, Great Britain and Germany were cited in support of the view that asbestos most likely did cause occupational cancer. Dr. Hueper made unequivocal statements the next year in the article called: "Cancer in its Relation to Occupational and Environment" published in the Bulletin of the American Society for the Control of Cancer. There, Hueper said that "asbestosis cancer of the lung" as he called it then, was the newest proved occupational cancer of the lung, to be listed with the ones that were already known at that time. In the Journal of the American Medical Association (JAMA), there appeared an editorial called

“Environmental Cancer” in 1944, in which asbestos was listed among agents known and suspected of causing occupational cancer.

26. In 1946, Dr. Hueper also published an article in the Journal of the American Medical Association (JAMA) discussing asbestos and other cancer causing substances that were used in industry. In 1944 and 1949, at the invitation of the editors of JAMA, Dr. Hueper wrote editorials for JAMA that discussed asbestos as a cause of lung cancer. Beginning in 1948, Dr. Hueper became Chief of the Environmental Cancer Section of the National Cancer Institute (“NCI”).

27. Dr. Hueper’s writings were widely known. For example, in an interview with Newsweek Magazine in 1950, Dr. Hueper stated that the rising rates of lung cancer in urban dwellers in this country could be attributable to the air pollution of industrial carcinogens such as asbestos. Dr. Hueper retired in 1964. In my opinion, during his tenure at the NCI, Dr. Hueper was the federal government’s leading official concerned with environmental cancer. Indeed, it is my opinion that he was considered by many to be the world’s foremost authority on environmental cancer in the 1940s, 50s, and 60s.

ASBESTOS AND MESOTHELIOMA

28. The disease mesothelioma of the pleura was attributed to exposure to asbestos or asbestosis starting in 1943 with the report of Dr. H.W. Wedler in Heidelberg. Between 1943 and 1960, there were additional reports in the German literature as well as British literature. The case reports that appeared prior to 1960 are annotated and cited by way of reference in Chapter 2, table 5 of my book. Dr. Wedler was the first to state that he believed the pleural cancers were occupational cancers, and his work was prominently cited in the United States in the 1940s. Other German pathologists starting with Leicher in 1954 would identify peritoneal mesothelioma as an asbestos disease.

29. Of special note is the study by Dr. H.B.Eisenstadt and Dr. F.W.Wilson in the *Journal-*

Lancet in 1960. Dr. Wilson was a medical doctor employed by Texaco at their Port Arthur facility. The study reported on two mesothelioma cases among Port Arthur refinery workers, one of whom had asbestosis. One of the workers was a Texaco refinery worker. The report noted that, "the etiologic association of asbestos and mesothelioma has been repeatedly discussed in the literature", citing references from the US, the Netherlands, Germany, and Italy. It did note that not all investigators agreed that asbestos predisposed to the very uncommon malignancy of the pleura, but that the patient's history of asbestos exposure "alerted the suspicion of the authors in the second case."

30. A major report of pleural mesothelioma came from South Africa by Wagner and his coworkers, published in the *British Journal of Industrial Medicine* in 1960. Within a very short time it was widely accepted: that asbestos did cause mesothelioma; that levels of asbestos exposure present from environmental exposure as well as occupational exposure were sufficient to cause mesothelioma.

31. In 1964, Dr. Irving Selikoff and his coworkers published a mortality study in the *Journal of American Medical Association* showing that there was a substantial excess of occupational cancer and deaths from asbestosis among people involved in the insulating trades. A group of workers who installed insulation and removed it regularly was found to have 45 deaths from pulmonary cancer in a group where only six or seven such deaths would have been expected. There were four deaths from peritoneal and pleural mesothelioma in this cohort, and this was described as a very rare disease and a substantial excess over what would have been expected. There were also 12 deaths from asbestosis in this work force. The study also noted that the symptoms of these disease might not become manifest until decades after the exposures.

32. Subsequently, later in 1964, at an international conference held in New York and published in 1965, Selikoff and coworkers reported that around 80 percent of the people who were in the insulating trade had developed asbestosis by the time they had been in trade for 20 or 30 years or more. At the conference in New York, British researchers Newhouse and Thompson presented a

report on 76 deceased mesothelioma patients and an equal number of "controls," based on interviews with relatives. Their report showed strong evidence that mesothelioma patients were far more likely to have had occupational, household, or neighborhood exposure to asbestos than the comparison patients who died from other causes at the same hospital.

OIL INDUSTRY KNOWLEDGE OF THE HAZARDS OF ASBESTOS

33. The hazards of asbestos were well known in the oil industry, where tremendous amounts of asbestos products were used, including raw asbestos fiber in oil drilling "muds". Standard Oil of New Jersey industrial hygienist Roy Bonsib wrote an extensive report in 1937, "Dust Producing Operations in the Production of Petroleum Products and Associated Activities", which stressed the hazards of asbestos. The oil industry trade group, the American Petroleum Institute (API) had regular meetings of doctors from the oil companies starting at least as early as 1945, with the formation of subcommittees including a subcommittee on carcinogenicity. Among the reports that the doctors' group, the Medical Advisory Committee (MAC), reviewed, was Shell Oil chemist HH Zuidema's "Carcinogenic Hydrocarbons and Related Compounds/ A Literature Review", which named asbestos as having been documented to have cancer-producing ability (1945).

34. In 1948, the MAC received a memorandum summarizing a presentation by Dr. WC Hueper at the annual meeting of the American Public Health Association, in which Hueper identified asbestos as a material for which a definite correlation with cancer incidence had been shown. Hueper was the Chief of the Environmental Cancer Section, US National Cancer Institute, and the most prolific author of articles on occupational cancer in the US. It was the practice of the committee to circulate memorandums such as this and published papers to its members.

35. Additionally, in the early 1950s, Dr. Hueper was invited to appear at one of the MAC meetings. In January 1953, one of Dr. Hueper's articles, "Environmental Cancers: A Review",

published in 1952 in the journal Cancer Research, was circulated to members and associates of the MAC. This article pointed to asbestos as a cause of lung cancer.

36. In 1954, Hueper presented a paper to the National Petroleum Association, again describing asbestos as a cause of occupational cancer. This was published in a 1955 article, "Occupational Cancer Hazards", by the US Department of Labor, and was circulated to members of the MAC and others prior to a meeting of the MAC and its Subcommittee on Carcinogenicity in April 1955.

37. In addition, the oil industry was the special focus of one medical journal called Medical Bulletin. This journal was published by Standard Oil of New Jersey and carried articles mentioning asbestos hazards and precautions with X-ray for asbestos workers at oil refining operations in Louisiana (4:98-109, 1939). Macdonald listed asbestos as a carcinogen (15:193-201, 1955). Gardner and Green Esso noted that sawing insulation was an asbestos hazard (14:46-64, 1954). Schneider said asbestos was a hazard to maintenance and repair workers (18:123-139, 1958); and Esso's Meyer and Church wrote that it was a hazard to insulators (21:256-265, 1961). Abstracts prepared by the Medical Research Division of Esso included Marr's paper on asbestosis in shipyard workers and Owen's report on 17 cases of mesothelioma in Britain (24:325, 1964).

UNION CARBIDE CORPORATION'S KNOWLEDGE

38. Union Carbide was a major user of asbestos and asbestos products and sold asbestos from the company's chrysotile asbestos mines in 1963-1985. Union Carbide mined and supplied fibers for use in the oil industry. The company was the exclusive supplier of asbestos fibers distributed by Montello, Inc. under the trade names Visbestos and Super Visbestos from 1968 to the mid 1980s'. Carbide received numerous articles and abstracts noting the hazards of asbestos through its memberships in the National Safety Council and the Industrial Hygiene Foundation in the 1930s and 1940s. In 1959, Carbide's insurer called attention to high exposures of workers adding asbestos to

mixers and filling sacks with asbestos at its plant in Speedway, Indiana. In 1962, Carbide conducted air sampling analyses to measure the dustiness of using asbestos thermal insulation products.

39. Carbide officials were present at the historic asbestos conference held by the New York Academy of Sciences in October, 1964, several blocks north of the firm's corporate headquarters on Park Avenue. Following this, the company produced an Asbestos Toxicology Report "in order to counteract any serious problems." The report acknowledged that the recommended limit for dustiness of 5 million particles per cubic foot was not visibly dusty, that concentrations of 8-10 MPPCF were necessary for the dust in the air to be visible. But the report also said that cases of cancer in workers without asbestosis was believed by authorities to be associated with exposures significantly exceeding 5 MPPCF. It concluded that asbestos could be used safely as long as exposures did not exceed 5 MPPCF.

40. In 1967, main reassurances in the Toxicology Report were contradicted by a confidential report from Carbide's London offices. This report said that mesothelioma could result from brief exposure, and the 5 MMPCF guideline was "no longer tenable." In a section of the report entitled "Moral Issues" the Union Carbide report states: "On the basis of present evidence we are not entitled under any circumstances to state that our material is not a health hazard. What is more, if it is believed that a potential customer would use our materials 'dangerously,' and that he is unaware of the toxicity questions, then it must surely be our duty to caution him and point out means whereby he can hold the asbestos air float concentration to a minimum." The Union Carbide corporate Director of Toxicology and one of the listed authors of the Toxicology Report agreed with this report overall and went on to note: "I have no idea what concentration might be effective in preventing this disease (mesothelioma) and I wonder whether even a limit of one million particles per cubic foot would be effective in this regard."

41. Nonetheless, the Toxicology Report, slightly revised, was sent to a customer in 1969 along with a letter from a Carbide official that said, "a connection between chrysotile asbestos and mesothelioma or lung cancer has not been clearly determined."

42. The U.S. Bureau of Mines conducted a health survey at the Union Carbide asbestos mine in California in 1971. The government mining engineers found that the bagger operator was exposed to eight times the 5 f/cc limit and had one exposure 12 times that high. The palletizer operator has exposures almost that high. The general mill atmosphere, also reported as the foreman's time weighted exposure, also exceeded the 5 f/cc level. Likewise the foreman's office sample was 7.5 f/cc, possibly from the dust on worker's clothes tracked into the office.

43. In 1972, Union Carbide advised its salesmen when dealing with customers who are persistent and threaten to eliminate asbestos that a certain amount of aggressiveness may be effective. Words and catch phrases such as "premature", "irrational" or "avoiding the inevitable" will sometimes turn the table.... Change the mood before discussing anything pertinent about the new (OSHA) regulations. Alternating between an aggressive and submissive attitude is confusing and allows you to bide time."

44. In 1974, a Carbide representative recognized the "atrocious" conditions faced by oil industry workers using asbestos in oil-drilling "muds." By 1975, a number of major companies had taken the position that there was no practical way to meet the OSHA monitoring and medical examination requirements and has stopped using asbestos in oil drilling. Smaller contractors stopped using asbestos after being told that warning sign was required.

45. Carbide first placed health warnings on its asbestos in 1972, when the US Department of Labor required that caution labels advise that asbestos could cause "serious bodily harm." Carbide lawyers raised concern that the sacks of asbestos the company sold did not bear "cancer" warnings in

1975. This was resisted at that time, following objections that it would have had a serious or fatal result on sales.

46. When the Consumer Product Safety Commission pursued rulemaking to ban asbestos in consumer patching compounds in 1976-1977, Carbide led the opposition to the ban. This persisted up until the day before the ban was published in December, 1977. It was estimated that 10,000 tons of asbestos was used annually in these products, and independent scientists had shown that high exposures resulted from mixing, sanding, and clean-up after use of these products.

MONTELLO, INC.'S KNOWLEDGE

21. Montello, Inc. was a distributor of 100 % raw asbestos fiber for use as an oil drilling additive from 1966 to the mid 1980's. Montello, Inc. was the exclusive distributor of asbestos fibers mined by Union Carbide Corporation marketed as drilling additives under the trade name Visbestos and Super Visbestos from 1968 to the mid 1980's. Montello, Inc. as a part of the oil industry was a member of the American Petroleum Institute (API) beginning in the early 1960, a member of the Asbestos Information Association/North America (AIA/NA) and Society of Petroleum Engineers.

22. Montello, Inc. and Union Carbide actively tried to sell asbestos as an additive for drilling muds in the 1960's through the mid 1980's, despite the fact that asbestos was known to be a carcinogen and despite the fact that there has never been a recognized safe exposure limit from which there exists no risk of malignancy.

23. Asbestos was not a necessary ingredient in drilling muds as many alternatives are mentioned in the patents and literature. Furthermore, asbestos was probably little used in drilling muds before about 1963. An alternative to asbestos could have been accomplished using many of the alternatives listed in the patents and technical literature.

24. In 1975, a Montello Inc. official complained to the Occupational Safety and Health Administration that citations for non-posting of caution signs regarding asbestos dust "have and are

having a very detrimental effect upon our activity in West Texas.” In 1979 Montello’s President stated in a letter to a Union Carbide official that “asbestos performs a valuable function in drilling fluids...for proof of the efficacy of asbestos in drilling fluids, one need look no further than the fact that users have continued to buy the material since July of 1972, despite the powerful negative incentive of stringent OSHA regulations.”

25. In 1981, Montello, Inc.’s president opposed additional OSHA compliance instructions while at the same time stating his company is “acutely aware of the toxicological and regulatory factors associated with asbestos usage.”

26. Additional discussion of oil industry knowledge and the knowledge of specific oil companies about asbestos hazards is in the 5th edition of my book, Asbestos: Medical and Legal Aspects (pp. 627-646). For additional information regarding Union Carbide Corporation’s knowledge about the hazards of asbestos is in the 5th edition of my book, Asbestos: Medical and Legal Aspects (esp. pp. 566-570).

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this ____ day of April, 2008 in _____, _____.

BARRY I. CASTLEMAN, Sc.D.