Submitted by
Mr Christian Hartley, esq.
5/4/07

496 1871

R. T. VANDERBILT ...
30 WINFIELD STREET
NORWALK, CONNECTICUT 06855

CABLE ADDRESS ...

January 2, 1975

Georgia-Pacific Corporation
900 South West Fifth Avenue
Portland, Oregon 97204

Attention: Mr. Edward L. Aasen
Purchasing Manager

Gentlemen:

In the course of our assuming the business of the former International Talc Company, we will continue to market five fibrous (asbestiform) type talcs previously supplied by them, namely:

1. Fiber #1
2. Fiber #2
3. Mouldene
4. 6N Fiber
5. PL Fiber

We intend to label bags containing these products with an Asbestos CAUTION Label as follows:

CAUTION-PRODUCT CONTAINS
ASBESTOS FIBERS. AVOID
CREATING DUST. BREATHING
ASBESTOS DUST MAY CAUSE
SERIOUS BODILY HARM.

As you know, the mineral fibers present in these grades, which make them industrially useful, are the asbestiform varieties of those minerals normally contained in commercial talc and consequently fall under Section 1910.93a, the OSHA Asbestos Standard.

Very truly yours,

Pamela A. Morvay
Specialties Department

Date 10-15-99 Exhibit # 5
Case Ballard-v-Owens
Deponent Vanderbilt
Reporter Linda L. Taylor CRS File # 625
Court Reporting Services, Inc.
888.430.1521 FAX 502.899.7976

PL. EX. 1 (Morvay)
FOR ID. 5-1-80
HARVEY L. KRAMER HC
REPORTER

496

1871

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CONNECTICUT 06855

January 2, 1975

Georgia-Pacific Corporation
900 South West Fifth Avenue
Portland, Oregon 97204

Attention: Mr. Edward L. Aasen
Purchasing Manager

Gentlemen:

In the course of our assuming the business of the former International Talc Company, we will continue to market five fibrous (asbestiform) type talcs previously supplied by them, namely:

1. Fiber #1
2. Fiber #2
3. Mouldane
4. 6N Fiber
5. PL Fiber

We intend to label bags containing these products with an Asbestos CAUTION Label as follows:

CAUTION-PRODUCT CONTAINS ASBESTOS FIBERS. AVOID CREATING DUST. BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM.

As you know, the mineral fibers present in these grades, which make them commercially useful, are the asbestiform varieties of those minerals normally contained in commercial talc and consequently fall under Section 1910.93a, the OSHA Asbestos Standard.

Very truly yours,

Pamela A. Horvay
Specialties Department

Date 10-15-99 Exhibit # 5
Case Ballard-v-Owens
Deponent Vanderbilt
Reporter Linda L. Taylor CRS File # 625
Court Reporting Services, Inc.
888.430.1521 FAX 502.899.7976

PL. REP. XX 1 (Mo. Vay)
FOR ID. 5-1-80
HARVEY L. KRAMER JR.
REPORTER

File: Talc

Johns-Manville

Internal Correspondence

To: E. M. Fenner, 1-06

Date: February 18, 1977

From: R. S. Lamar, 3-05

Copies: J. H. Swensen, J. P. Leineweber, W. C. Streib, D, C

Subject: Paper by C. S. Thompson
"Asbestos in Your Future".

Dr. Leineweber's comments on this paper, given in his memo to you dated February 17, 1977, are in my opinion correct but perhaps too mild.

One of the few technically correct statements made by Dr. Thompson appears on page three. I agree that chrysotile is not a member of the pyroxene group, but disagree with almost everything else said by Thompson.

I object strongly to another statement on page three regarding "misinformation" supplied by a competitor. Furthermore, in spite of Thompson's gobbledygook regarding the mineralogy of vermiculite talc, to this point does he admit to the fact that their "talcs" contain not only fibrous tremolite but chrysotile and anthophyllite as well. This we have proved by every available technique. These findings are well documented in numerous R&D reports.

I'm afraid that Dr. Thompson long ago gave up any professional ethics he might have had and is now persisting with a program that is not only technically flawed but even more tragic morally and ethically wrong. He totally ignores the medical consequences of his immorality.

R. S. Lamar

ib

Attachments all copies

CRMC-BEV-000675

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

Response to the November 2005 National Stone, Sand & Gravel Association Report Prepared by the R.J. Lee Group, Inc "Evaluation of EPA's Analytical Data from the El Dorado Hills Asbestos Evaluation Project"

April 20, 2006

United States Environmental Protection Agency Region 9
Response to the November 2005 National Stone, Sand & Gravel Association report prepared by the R.J. Lee Group, Inc:
"Evaluation of EPA's Analytical Data from the El Dorado Hills Asbestos Evaluation Project"

This document constitutes the United States Environmental Protection Agency Region 9 (EPA Region 9) response to the major findings and conclusions of the National Stone, Sand & Gravel Association report "Evaluation of EPA's Analytical Data from the El Dorado Hills Asbestos Evaluation Project" prepared by the R. J. Lee Group (R. J. Lee Report). A more detailed analysis will be completed after additional information is received from the R. J. Lee Group and the National Stone, Sand & Gravel Association,[1] and the United States Geological Survey (USGS).

The R. J. Lee Report draws conclusions that are contradicted by the El Dorado Hills data and by generally accepted scientific principles for measuring asbestos exposure.

Overview

The R. J. Lee Group review of the EPA data was contracted by the National Stone, Sand & Gravel Association. The El Dorado County Office of Education funded the three reviewers who wrote letters in support of the R. J. Lee Report and whose reviews are included in this response.

The EPA Region 9 El Dorado Hills Naturally Occurring Asbestos Exposure Assessment was designed to measure the exposures to asbestos fibers, if any, that resulted from sports and play activities that disturbed dust and soil. EPA Region 9 adhered to accepted EPA standards for sampling and analysis, including rigorous quality assurance/quality control, and to the standard methodologies of EPA exposure and risk assessment.

The R. J. Lee Report Criticizes EPA Region 9 for Using Established Scientific and Public Health Protocols - In assessing naturally occurring asbestos exposures in El Dorado Hills, EPA evaluated asbestos exposures using the PCME (phase contrast microscopy equivalent) asbestos fiber size classification. The PCME classification was used because human epidemiological studies, which form the basis of knowledge of asbestos health effects, measured asbestos fiber concentrations using phase contrast microscopy (PCM) analytical methods. PCME is the standard term for fibers counted by more modern analytical methods that are of equivalent size to those fibers that would be seen by PCM analysis, and includes fibers with a length to width aspect ratio of 3 to 1 or greater. EPA considered PCME fibers in our analysis of the El Dorado data to be consistent with the existing health databases and risk assessment

[1]On March 9, 2006, EPA Region 9 sent a letter to the R.J. Lee Group and the National Stone, Sand, & Gravel Association asking for additional information to support the findings and conclusions of the R.J. Lee Report.

procedures used by EPA, California EPA (Cal/EPA), the World Health Organization, and other federal agencies and international organizations. This approach was rejected by the R.J. Lee Group, which instead advocates use of asbestos fiber definitions which are not health based or supported by the majority of experts in the health community, and which would not allow comparison to the existing epidemiologic data on asbestos related cancers.

The R. J. Lee Report Claims that EPA Region 9 Misapplied Fiber Counting Protocols - The R. J. Lee Report claims that EPA Region 9 inflated the fiber counts in the El Dorado Hills air data by misapplying the International Standards Organization (ISO) method 10312 (the analytical method used by EPA to analyze the El Dorado air samples) and including PCME structures with a 3 to 1 length to width aspect ratio in our analysis. The R. J. Lee Report maintains that EPA should only have counted structures which met the general 5 to 1 aspect ratio fiber size definition described in the body of the ISO 10312 method. However, Annex C and Annex E of the ISO 10312 method specifically authorize the counting of PCME structures with a 3 to 1 aspect ratio. Another example of misleading information is the R.J. Lee Report's statistical evaluation and resulting conclusions regarding the concentrations of asbestos structures detected in the EPA air samples. All of the established EPA, National Institute of Occupational Safety and Health (NIOSH), and ISO analytical methods require the counting of asbestos bundles, recognizing the significance of bundles to proper characterization of asbestos fiber levels. The R.J. Lee Report did not include asbestos bundles in its analysis of the data, thereby undercounting the number of structures.

The R. J. Lee Report Claims that EPA Region 9 Misidentified Amphibole Minerals - The R. J. Lee Report concludes that EPA misidentified actinolite asbestos fibers in the El Dorado soil samples by using inappropriate extinction angle criteria. The R. J. Lee Group conclusion is contradicted by the National Institute of Standards and Technology (NIST) and the major analytical methods used for analysis of asbestos in soil and bulk samples. The R. J. Lee Report also cites an unpublished 1980 draft report to support its contention that structures found in the EPA air samples are not asbestos, and ignores a subsequent 1981 published report by the same author that actually supports the EPA approach.

The R. J. Lee Report Applies a Geologic Definition rather than a Public Health Definition to Characterize Microscopic Structures - The R. J. Lee Report relies heavily on the geologic distinction between asbestos fibers and cleavage fragments of the same dimensions, with the implication that exposure to cleavage fragments is benign and of little or no health significance. For the purposes of public health assessment and protection, EPA makes no distinction between fibers and cleavage fragments of comparable chemical composition, size, and shape. The EPA Region 9 approach, which is supported by most public health agencies and scientists, as well as the American Thoracic Society, is based on the following: (1) The epidemiologic and health studies underlying EPA and Cal/EPA cancer risk assessment methods were based on exposures to both cleavage fragments and fibers, and were unable to distinguish between the two, (2) The most recent panel of experts to review asbestos risk assessment methods, the 2003 Peer Consultation Panel convened by EPA, concluded that "it is prudent at

this time to conclude equivalent potency [of cleavage fragments and fibers] for cancer,"[2] (3) No well-designed animal or epidemiological studies have adequately tested the hypothesis that cleavage fragments with the same dimensions as a fiber are benign or that the human body makes any distinction, (4) Studies that purport to show that cleavage fragments are benign are questioned by many asbestos health experts, (5) There are no routine asbestos air analytical methods, including those used by EPA, NIOSH, the Mine Safety and Health Administration (MSHA), the American Society for Testing and Materials (ASTM), and ISO which differentiate between cleavage fragments and crystalline fibers on an individual fiber basis.

The R. J. Lee Report's "Virtual" Review of EPA Region 9's Air Samples is Inconsistent with Established Laboratory Practices - The R.J. Lee Group did not have access to EPA's actual air samples, nor did it collect any air samples of its own. Rather it reviewed limited pictures and spectra data of a small number of EPA's air samples and drew conclusions based on those representations. Such a virtual review is not consistent with the National Voluntary Laboratory Assurance Program (NVLAP) quality assurance procedures nor the verification methods of the National Institutes of Standards and Technology.

Federal Courts Have Supported EPA - Many of the assertions of the R. J. Lee Report are consistent with positions that the R.J. Lee Group took as an expert witness for W.R. Grace in the Libby, Montana litigation. In this litigation, the written opinions of the District and Appeals courts, while not specifically addressing the opinions of the R.J. Lee Group, rule in favor of EPA and expressly hold that EPA's experts and science are credible.[3]

Background

In October 2004, the EPA Region 9 Superfund site assessment program conducted an assessment of exposures to naturally occurring asbestos (NOA) in El Dorado Hills, California. Specifically, EPA Region 9 simulated the sports activities of children and adults at three schools and a community park and, using personal air monitors, measured asbestos levels in the breathing zones of participants. EPA Region 9 also collected samples of ambient air in the area of the sampling at the same time the simulations were conducted to serve as reference samples. The personal activity-based samples were then compared to the reference samples. The Asbestos Hazard Emergency Response Act (AHERA)[4] regulation Z-test for statistical

---

[2]USEPA (U.S. Environmental Protection Agency) (2003). Report on the Peer Consultation Workshop to Discuss a Proposed Protocol to Assess Asbestos-Related Risk, Final Report. Office of Solid Waste and Emergency Response, Washington D.C. Page viii.

[3] See U.S. v. W.R. Grace, 280 F Supp 2d 1149 (2003): U.S. v. W.R. Grace, 429 F. 3d 1224, 1245 (9th Cir. 2005) (Although debate regarding testing methodology and data analysis is "exceedingly complex", EPA did not ignore accepted scientific principles)

[4]The Asbestos Hazard Emergency Response Act (AHERA) was passed by Congress in 1986 to provide for the inspection and mitigation of asbestos in school buildings. Regulations implementing the Act were promulgated by EPA in 1987.

significance was applied to determine whether there were any statistically significant differences between the personal exposure samples and the ambient reference samples. EPA Region 9 collected over 400 air samples and generated over 7000 data points. All of EPA Region 9's's analyses were conducted by accredited laboratories using recognized methods and procedures with strict quality assurance control, including blind performance samples to check analytical accuracy.

Amphibole asbestos, which many health scientists consider to be even more toxic than chrysotile asbestos, was found in almost all the reference and activity-based samples. Of the 29 different sets of activity-based scenario measurements, application of the Z-test determined that personal exposures from 24 scenarios were significantly elevated over the reference samples. Most importantly, the data showed that children and adults participating in sports activities in areas where asbestos occurs naturally in the surface soils, as it does in El Dorado Hills, can be exposed to asbestos fibers of health concern at up to 62 times the corresponding reference levels.

EPA Region 9 released the data from the assessment in May 2005 and held a public meeting in El Dorado Hills that was attended by more than 1000 members of the public. From the outset of the assessment, EPA Region 9 made clear to the community that EPA's only intent was to gather data on potential exposures. The community and the State and local regulatory agencies could then use the information to make decisions about the significance of those exposures and determine appropriate control measures. Both EPA Region 9 and the Agency for Toxic Substances and Disease Registry (ATSDR) have informed the community that exposure levels are a main determinant of the risk of developing asbestos-related cancers and non-cancer diseases, and that reducing the exposures reduces the risk. Consistent with its intent, EPA Region 9 has actively engaged the State and local regulatory agencies to improve naturally occurring asbestos mapping, monitoring, dust control, and regulation. El Dorado County has recently adopted more stringent dust control ordinances.

Detailed Comments on the R. J. Lee Report

R.J. Lee Finding #1: "Based on Mineralogy, Sixty-Three Percent (63%) of the Amphibole Particles Identified as Asbestos Fibers can not be Asbestos."

The R. J. Lee Report argues that there is too much aluminum in 63% of EPA Region 9's identified fibers for the fibers to be asbestiform.[5] In addition, the remaining 37% (sometimes the Report uses 35%) are not asbestos fibers based on their particle dimensions.

EPA Response

Aluminum - Analysis of the EPA Region 9 El Dorado air samples was performed using the International Standards Organization (ISO) method 10312, a state-of-the-art

[5]Asbestiform: Having the form or structure of asbestos.

Transmission Electron Microscope (TEM)[6] method with energy dispersive spectroscopy (EDS)[7] that has strict counting rules and characterizes the dimensions and chemistry of every fiber identified by the microscopist. Identification of fiber type was performed according to the general guidelines of the International Mineralogical Association (IMA) (Leake, 1997)[8], the international standard for amphibole nomenclature. This same approach for asbestos classification is recommended in the "Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation", EPA 600/R-04/004, January 2004, and was one of the tools used by Meeker et al (2003)[9] to determine the composition and morphology of amphiboles from Libby, Montana.

The R. J. Lee Report claims that 63% of the amphibole fibers identified by the EPA laboratory[10] as actinolite asbestos have concentrations of total aluminum that are too high to form asbestos fibers. According to page 2 of the R. J. Lee Report, "Particles with more than 0.3 aluminum atoms pfu [per formula unit] or about 1.5 percent Al_2O_3 cannot form in the asbestos habit due to crystal lattice constraints." To support its argument, the R. J. Lee Report cites three references. However, on close examination, two of the three references do not agree with the upper threshold limit that the R.J. Lee Group puts on total aluminum content (Leake et al, 1997) (Deer, Howie and Zussman, 1997)[11]. The third reference (Verkouteren & Wylie, 2000)[12] draws its conclusions on examination of a

---

[6]Transmission Electron Microscopy (TEM) produces images of a sample by illuminating the sample with an electron beam in a vacuum, and detecting the electrons that are transmitted through the sample.

[7]Energy Dispersive Spectroscopy (EDS) uses measurement of the energy and intensity of X-rays generated when a selected area of a sample is irradiated with an electron beam to identify the mineralogical composition of a structure.

[8]B.E. Leake et al (1997). Nomenclature of Amphibole: Report of the Subcommittee on Amphiboles of the International Mineralogical Association, Commission on New Minerals and Mineral Names. American Mineralogist, Volume 82, pages 1019-1037.

[9]G.P. Meeker et al (2003). The Composition and Morphology of Amphiboles from the Rainy Creek Complex, Near Libby, Montana. American Mineralogist, Volume 88, pages 1955-1969.

[10]In this document, the terms "EPA laboratory" and "EPA Region 9 laboratory" refer to the private laboratories that conducted the analysis of the EPA soil and air samples under contract to EPA Region 9.

[11]W.A. Deer, R.A. Howie, and J. Zussman (1997). Rock-Forming Minerals: Double Chain Silicates, Vol 2, second edition, p 137 - 145.

[12]J.R. Verkouteren and A.G. Wylie (2000). The Tremolite-Actinolite-Ferro-Actinolite Aeries: Systematic Relationships Among Cell Parameters, Composition, Optical Properties, and

small set of fibrous actinolite asbestos samples which the authors partition into asbestos and fibrous "non-asbestos" byssolite using criteria which the IMA specifically recommends against, and which is inconsistent with all standard asbestos analytical methods. Perhaps most important is the fact that all three references agree that it is the IMA criteria which primarily govern the general classification of amphibole type, not the total aluminum content. These references therefore actually support the classification approach taken by the EPA laboratory.

The R.J. Lee Group did not have access to the EPA air samples to conduct their own analyses. Instead, the R.J. Lee Group looked at a limited number of photographs of the recorded EDS spectra. Interferences by other elements in the sample can affect the aluminum total in the spectra. This is especially important because the EPA samples were of air releases from soil, not processed asbestos material. Soils contain non-asbestos mineral and biological particles that can influence element totals in an EDS spectrum, most notably clay particles, which are high in aluminum. The laboratory used by EPA Region 9 identified aluminum-rich actinolite asbestos, by applying the IMA classification guidelines to its direct analysis of the actual sample.[13]

Particle Dimension - As previously stated, the R. J. Lee Report claims that 37% of the fibers counted by EPA in the El Dorado Hills air samples are not asbestos fibers based on their particle dimensions. The report claims that EPA Region 9 inflated the fiber counts by including asbestos structures which do not meet the definition of a fiber as described in ISO 10312. The general ISO 10312 method requires the counting of every asbestos structure with a length to width aspect ratio of 5:1 or greater. As directed by Region 9, the EPA laboratory counted structures with a 3:1 or greater aspect ratio. The R. J. Lee Report states that EPA erred in counting structures with aspect ratios less than 5:1. **Annex C and Annex E of the ISO method clearly authorize the counting of PCME structures with a 3:1 aspect ratio if the data are to be used for exposure or risk assessment purposes, the stated goal of the El Dorado Hills assessment. In fact, the ISO method contains numerous references to PCME fibers. PCME fibers are defined as fibers greater than 5 microns in length, and 0.25 to 3 microns in width with a 3:1 aspect ratio.[14] PCME fibers form the basis for EPA's IRIS toxicity database and the asbestos risk models of California EPA and other federal and international organizations.[15]**

Habit, and Evidence of Discontinuities. American Mineralogist, 85, p. 1239 - 1254.

[13]Personal communication with John Harris, Lab/Cor, January 2006.

[14]World Health Organization (1986). Environmental Health Criteria 53, International Programme on Chemical Safety, Asbestos and Other Natural Mineral Fibres, section 2.3.2.2.

[15]The IRIS asbestos cancer inhalation unit risk, a measure of asbestos cancer potency, is based on the EPA 1986 Airborne Asbestos Health Assessment Update (EPA/600/8-84/003F; 1986). Cal/EPA used a similar approach and data sets to derive its cancer unit risk. Both the IRIS and the Cal/EPA cancer potency values rely on human epidemiological studies that were conducted using phase contrast microscopy (PCM) analytical methods (some were midget

The R.J. Lee Group also manipulates its statistical analysis of the El Dorado Hills air data by ignoring counts of asbestos fiber bundles in its evaluations. Bundles are two or more attached parallel asbestos fibers which can have a significant health impact when they are inhaled and separate into individual fibers. Bundles were counted in the historical epidemiological studies which form the basis of our knowledge of asbestos-related health effects and EPA's IRIS database. **All of the established EPA, NIOSH, and ISO analytical methods require the counting of asbestos bundles, recognizing the significance of bundles to proper characterization of asbestos fiber levels.**

The R. J. Lee Report further states that EPA's data inflated the asbestos fiber count by ignoring the Agency's own "definition" of asbestos. To support this claim, the R.J. Lee Report cites the glossary of "Method for Determination of Asbestos in Bulk Building Materials", EPA 600/R-93/116, 1993, which states, in part, "With the light microscope, the asbestiform habit is generally recognized by the following characteristics: Mean aspect ratios ranging from 20:1 to 100:1 or higher for fibers longer than 5 microns." The building material analytical method is designed to detect commercially processed asbestos in items like floor tiles, roofing felts, paper insulation, paints, and mastics, not naturally occurring asbestos on air filters or in soil samples. To present the 20:1 aspect ratio for commercial grade asbestos as a universal EPA policy, and to advocate its use as an appropriate standard for analyzing air samples of naturally occurring asbestos is inappropriate and contradictory to use of the PCME dimensional criteria as a tool for assessing exposure risk.

The R. J. Lee Report also states that the diffraction pattern analyses produced by the EPA laboratory for the El Dorado Hills air samples demonstrates that the particles identified by the laboratory are not asbestos.[16] The report cites a 1980 unpublished draft study by S.J. Ring to support its conclusion. The R. J. Lee Report does not mention a 1981 published article by the same author which revises the findings such that they no longer support the conclusion of the R. J. Lee Report and, in fact, support the data produced by

---

impinger data converted to PCM counts) that could not distinguish fibers that were 5 microns in length or less. PCM cannot distinguish between fibers and cleavage fragments. PCM is not as powerful as current Transmission Electron Microscope (TEM) methods (400X vs 20,000X) as TEM can see the thinner/shorter fibers. However, since EPA's (and Cal/EPA 's) toxicity database relies on human health studies that used PCM, current EPA risk procedures use the more powerful TEM method but report the PCM equivalent (PCME) fibers and only use the PCME counted fibers in a risk assessment. This is because the IRIS asbestos file specifies that only PCME fiber counts be used with inhalation unit risk for risk calculation. See also the reference cited in footnote 11.

[16]Diffraction pattern analyses irradiates a sample with x-rays and then takes an x-ray photograph.

EPA.[17]

R.J. Lee Finding #2: "The Laboratory Procedures did not Comply With the NVLAP Quality Assurance Standard."

The R. J. Lee Report says that the false positive rate in our air samples was 35% when the acceptable limit in the National Voluntary Laboratory Accreditation Program (NVLAP) is 10%.

EPA Response

The laboratories used by EPA Region 9 for analysis of the El Dorado Hills air and soil samples are accredited through the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP is administered by the National Institute of Standards and Technology, a non-regulatory agency within the U.S. Commerce Department. A large part of the accreditation process involves on-site audits performed by NVLAP-certified inspectors who review laboratory operational and quality assurance compliance parameters, including documentation proving compliance with NVLAP requirements for verification analyses. A laboratory must demonstrate that all analysts reporting data meet the false negative and false positive requirements set forth by NVLAP before an accreditation certificate is issued. To make a determination that a laboratory did not comply with NVLAP verification standards would require a very detailed examination of all laboratory generated raw data, project specific information, such as a site-specific EPA issued Quality Assurance Project Plan, laboratory instrument log books, and other data and information not supplied in an analytical report. Interviews with the laboratory manager, quality assurance manager, and involved analysts are also mandatory to make judgement on a laboratory's possible non-compliance. The R.J. Lee Report's conclusion that the EPA laboratory was not in compliance with NVLAP, based on a cursory review of count sheet and other limited data without the in-depth examination detailed above, is therefore invalid and cannot be used to question EPA's analytical results.

EPA chose NVLAP-accredited laboratories for the El Dorado Hills assessment as a minimum quality requirement. For supplemental quality assurance, the laboratories were subjected to on-site audits performed by EPA's Quality Assurance Technical Support group, and both laboratories were sent performance evaluation samples prior to analysis of the El Dorado samples. In addition, the laboratory conducting the air sample analysis was sent double blind performance evaluation samples during the sampling event. In all cases, the laboratories successfully identified the amounts and types of asbestos present on the blind samples within acceptable limits. Further, the El Dorado Hills air and soil data were validated by a third party in accordance with standard EPA quality assurance

[17]S.J. Ring (1981). Identification of Amphibole Fibers, Including Asbestos, Using Common Electron Diffraction Patterns. In Russell P.A. and Hutchings A.E. (Eds), Electron Microscopy and X-ray Applications to Environmental and Occupational Health Analysis, Vol. 2:175-198, Ann Arbor Science Publ., Inc.

procedures and were found to be acceptable for all uses.

R. J. Lee Finding #3: "The Soil Samples do not Demonstrate the Presence of Amphibole Asbestiform Minerals."

The R. J. Lee Report states that the actinolite asbestos fibers identified in the El Dorado Hills soil samples contain too much aluminum to be asbestiform and that the extinction angles of the fibers indicate that they are non-fibrous cleavage fragments. The R.J. Lee Group's analysis of 23 split soil samples from EPA's October 2004 sampling event found no asbestos in the samples.

EPA Response

Aluminum - The R. J. Lee Report states that the aluminum content of the fibers in the soil samples was too high to be asbestiform actinolite and that it was indicative of non-asbestiform actinolite and another amphibole, hornblende, which contains approximately 10-20% by weight Al_2O_3 (5.3-10.6% by weight aluminum). Both the laboratory performing EPA's El Dorado soil sample analysis and the laboratory which analyzed the EPA air samples noted significant quantities of hornblende in the samples, but did not count or report those particles as asbestos. Please see the EPA response to Finding #1 for a further discussion of the aluminum issue.

Extinction Angles - The extinction angle of a fiber evaluated by polarized light microscopy is one of many criteria used to identify mineralogical composition. The extinction angle for amphibole asbestos fibers is the difference in degrees between the long axis of the fiber and the angle at which the fiber optically disappears (the polarization direction where the light passing through it becomes "extinct") when the fiber is rotated under a polarized light microscope. The R.J. Lee Report states that amphibole asbestos fibers have a zero-degree extinction angle and that non-asbestos cleavage fragments have non-zero extinction angles. Therefore, because the EPA soil sample analysis reported extinction angles which, according to the R.J. Lee Group, averaged 12°, the report alleges EPA incorrectly identified cleavage fragments as asbestos fibers.

The R.J. Lee Report's conclusion regarding extinction angles is contradicted by the National Institute of Standards and Technology (NIST) and the major analytical methods used for analysis of asbestos in soil and bulk samples. NIST certifies and provides Standard Reference Materials (SRM) for laboratory instrument calibration and laboratory accuracy measurement. The NIST Tremolite/Actinolite SRM 1867A is a special set of three samples certified by NIST to be of ultra-high purity tremolite, actinolite, and anthophyllite asbestos and is considered the "gold standard" for asbestos analytical laboratories. The material is rigorously characterized and is accompanied by a six-page document that describes the properties of each sample. It is required that all analytical laboratories accredited by NIST/NVLAP have the material in their possession and that they use it to calibrate their operations and to test their analysts. The NIST SRM

1867A certificate which accompanies the samples of tremolite and actinolite states that the reference tremolite can have an extinction angle of up to 16.6 ± 0.3° and that the actinolite can have an extinction angle of up to 15.9±0.2°. When the EPA laboratory processed the NIST actinolite standard in the manner of the El Dorado Hills soil samples, the extinction angles of the fibers in the processed standard sample were consistent with allowed maximum extinction angles for tremolite/actinolite asbestos (~ 10° to 20°) and the extinction angles of the fibers seen in the EPA soil samples.[18]

Further, the laboratory methods of EPA, NIOSH, and other agencies for analysis of asbestos in bulk material all state that tremolite-actinolite asbestos fibers may have zero (parallel) or *non-zero* (inclined or oblique) extinction angles. EPA Method 600/R-93/116[19], the standard method used by all NIST/NVLAP accredited laboratories to test building materials for the presence of asbestos, states in Table 2-2, Optical Properties of Asbestos Fibers, that tremolite-actinolite asbestos has extinction "parallel and oblique (up to 21°)." NIOSH Method 9002[20], the method used for analysis of the El Dorado Hills soil samples, states directly that actinolite and tremolite fibers exhibiting inclined extinction are to be considered asbestos. The method further states that "If anisotropic fibers are found (during PLM analysis), rotate the stage to determine the angle of extinction. Except for tremolite-actinolite asbestos which has oblique extinction at 10-20°, the other forms of asbestos exhibit parallel extinction... Tremolite may show both parallel and oblique extinction."[21]

R.J. Lee Finding #4: "The ISO 10312 Analytical Method can not Distinguish Between Asbestos Fibers and Non-Asbestos Cleavage Fragments."

The R.J. Lee Report states that the ISO 10312 method contains the disclaimer that "The method cannot discriminate between individual fibers of asbestos and non-asbestos analogues of the same amphibole material," and, therefore, EPA inflated the asbestos air concentrations by counting "cleavage fragments."

EPA Response

The ISO 10312 method cannot differentiate between fibers and cleavage fragments with

---

[18]M. Bailey (2006). Identification of Asbestiform Tremolite/Actinolite. Naturally Occurring Asbestos Workgroup Meeting Presentation.

[19]USEPA (U.S. Environmental Protection Agency) (1993). Method for the Determination of Asbestos if Bulk Building Materials. EPA Method 600/R-93/116.

[20]NIOSH (National Institute for Occupational Safety and Health) (1992). Asbestos (Bulk) by PLM.. Method 9002 (Issue 2).

[21]NIOSH (National Institute for Occupational Safety and Health) (1992). Asbestos (Bulk) by PLM.. Method 9002 (Issue 2). Qualitative Assessment, Item c, page 4.

the same dimensions and chemical composition. No routine analytical method has a protocol for distinguishing fibers from cleavage fragments on an individual particle basis. Additionally, from a health standpoint, there is no evidence that supports making the distinction.

Cleavage fragment is a geologic term which refers to structures that form when non-fibrous forms of asbestos minerals split along crystallographic planes, as opposed to asbestos fibers which form from crystalline growth. The R.J. Lee Report maintains that there is a toxicological difference between asbestos structures which formed as fiber crystals and fibers which formed by cleavage plane separation. Page 3 of the R.J. Lee Report states that cleavage fragments are "not known to produce asbestos-like disease." **It is the position of EPA, the U.S. Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry (ATSDR) and National Institute for Occupational Safety and Health (NIOSH), and the American Thoracic Society, among others, that microscopic structures of amphibole and serpentine minerals that are asbestiform and meet the size definition of PCM fibers, should be counted as asbestos, regardless of the manner by which they were formed.** There are four reasons why the health agencies have taken this position: (1) The epidemiologic and health studies underlying EPA, and California EPA, cancer risk assessment methods were based on exposures to both cleavage fragments and fibers, but were unable to distinguish between the two, (2) The most recent panel of experts to review asbestos risk assessment methods, the 2003 Peer Consultation Panel convened by EPA, concluded that "it is prudent at this time to conclude equivalent potency [of cleavage fragments and fibers] for cancer,"[22] (3) No well-designed animal or human epidemiological studies have been conducted to date to test the hypothesis that cleavage fragments with the same dimensions of a fiber are benign, or that the human body makes any distinction, and studies that purport to show that cleavage fragments are benign are questioned by many asbestos health experts,[23] (4) There are no routine air analytical methods, including those used by EPA, NIOSH, the Mine Safety and Health Administration (MSHA), the American Society for Testing and Materials (ASTM), and the ISO which differentiate between cleavage fragments and crystalline fibers.

---

[22]USEPA (U.S. Environmental Protection Agency) (2003). Report on the Peer Consultation Workshop to Discuss a Proposed Protocol to Assess Asbestos-Related Risk, Final Report. Office of Solid Waste and Emergency Response, Washington D.C. Page viii.

[23]Both Addison (Addison J, Davies LST. 1990. Analysis of amphibole asbestos in chrysotile and other minerals. Ann Occ Hyg, Apr;34(2):159-75) and members of the U.S. EPA 2003 Peer Consultation panel raised concerns about interpretation of the Davis study (Davis JM, McIntosh C, Miller BG, Niven K. 1991. Variations in the carcinogenicity of tremolite dust samples of differing morphology. Ann NY Acad Sci, Dec;643:473-90), which attempted to compare the toxicity of asbestos fibers and cleavage fragments. These concerns reflected the lack of peer review, use of intra peritoneal injection instead of inhalation exposure, significance of mesotheliomas caused by structures reported as cleavage fragments, purity of the cleavage fragment samples and issues related to fiber dimensions.

In terms of epidemiological data and health outcomes, the cleavage fragment argument is without merit. For the purposes of public health assessment and protection, EPA makes no distinction between fibers and cleavage fragments of comparable chemical composition, size, and shape.

There are no recognized analytical protocols, including those used by EPA, NIOSH, MSHA, ASTM, and ISO, which include criteria to differentiate between cleavage fragments and crystalline fibers. All these methods require that structures which meet their definition of the specific counting rules for an asbestos fiber be counted. The requirements are based on the fact that, in the words of an expert from the United States Geological Survey, "At a microscopic level, distinguishing between these forms on single [asbestos] particles, can be extremely difficult to impossible."[24] As noted above, R.J. Lee made a very similar claim with regard to cleavage fragments as the expert witness for W.R. Grace in the Libby, Montana, Superfund cost recovery litigation. The EPA analytical experts who reviewed the R.J. Lee Group's testing methodology related to the Libby site found that the R.J. Lee laboratory could not demonstrate any reliable criteria with which to distinguish, at the microscopic level, asbestos cleavage fragments from asbestos fibers of the same size, shape, and composition. The Ninth Circuit Court of Appeals recognized the competing scientific arguments but found that EPA's position was consistent with the record of evidence and accepted scientific principles.[25]

R.J. Lee Finding #5: "Applying the Latest Science and Definitional Techniques, the El Dorado Hills Study Shows no Significant Exposure to the Type of Amphibole Asbestos Fiber Connected To Health Risk."

The R. J. Lee Report claims that the latest science for measuring the risk posed by asbestos is the Berman-Crump Asbestos Risk Assessment Protocol ("Berman-Crump") which proposes that amphibole asbestos fibers which are more than 10 microns long and less than 0.5 microns wide (protocol fibers) are the most toxic. Of the 2,386 fibers which the R. J. Lee Report states the EPA laboratory identified, the R.J. Lee Report concludes that only 7 fibers meet the "Berman-Crump" definition. Therefore, the R.J. Lee Group maintains that EPA has overstated the risk from exposure to asbestos fibers in El Dorado Hills.

EPA Response

The "Berman-Crump" protocol that the R.J. Lee Report references is in fact a draft EPA method. EPA had the method reviewed by a peer consultation panel in 2003. The panel made a number of important recommendations that must be addressed before the method can be used for EPA risk assessments. A number of important revisions have been made

---

[24]G.P. Meeker, USGS, (2002). Review of Expert Report of R.J. Lee.

[25]U.S. v. W.R. Grace, 429 F.3d at 1245.

to the draft method since 2003, but at this time the method has not been independently peer reviewed. It will not be adopted by EPA as a risk assessment tool unless and until it passes rigorous internal and external peer review.

The expert peer panel has recommended that the fiber size for the draft EPA risk assessment method be adjusted to include fibers greater than 5 microns in length and up to 1.5 microns in width.[26] The change is designed to account for lung deposition of fibers that results when fibers are inhaled through the mouth, and not filtered by the nasal passages. The broadening of the fiber definition to include inhalation by "mouth breathers" is especially relevant to the El Dorado Hills data. Our investigation measured personal asbestos exposures of individuals participating in sports activities, where physical exertion would likely increase breathing through the mouth. **The PCME fibers counted in the EPA air samples are actually consistent with the latest science of EPA, as reflected in the recommendations of the peer consultation panel.** In addition, the EPA peer consultation expert panel recommended that cleavage fragments be treated as any other asbestos fiber of the same morphology and chemical composition.[27]

EPA Region 9 focused on obtaining an accurate count of PCME structures, consistent with our risk assessment protocols and those of Cal/EPA and other health agencies. The counting rules which EPA set for the laboratory were designed to stop counting when a statistically-significant number of PCME fibers were detected. By concentrating on PCME structures, other fiber size classifications may not have been counted to statistical significance. This may have resulted in under counts of other fiber sizes (e.g. the "Berman Crump" protocol fibers referred to in the R. J. Lee Report). **EPA Region 9's study counted PCME structures so that the data could be directly compared to human health epidemiological studies.** These epidemiological studies form the basis for risk assessment models currently used by EPA, Cal/EPA and other federal agencies and international organizations.

R. J. Lee Report Peer Reviews

The R. J. Lee Report was reviewed by three individuals, although research of one of the individuals was extensively quoted in the report and therefore the independence of the reviewer is debatable. The three reviewers generally agree with the conclusions of the R. J. Lee Report regarding aluminum content, fiber chemistry, cleavage fragments, and extinction angles.

Both the R. J. Lee Report and one of the reviewers support use of the original "Berman-

[26]USEPA (U.S. Environmental Protection Agency) (2003). Report on the Peer Consultation Workshop to Discuss a Proposed Protocol to Assess Asbestos-Related Risk, Final Report. Office of Solid Waste and Emergency Response, Washington D.C. Page 5-5.

[27]Ibid, page 5-1.

Crump" protocol and calculate a "Berman-Crump" fiber air concentration of 0.0002 fibers/cubic centimeter, using the EPA fibers which they assert meet the "Berman-Crump" definition. The peer reviewer then compares that concentration with an ambient concentration of 0.0008 fibers/milliliter measured in New York City, and states that the "Berman-Crump" value in El Dorado Hills is extremely low. This comparison is flawed for at least two reasons. Significantly, the New York City numbers are based on fibers counted against a totally different size classification (essentially comparing apples to oranges), but **the reviewer also fails to recognize that a concentration of 0.0002 f/cc translates in the protocol to an increased cancer risk of 1 in 1,000 exposed individuals.** This number is disturbingly high and is outside the acceptable cancer risk ranges of EPA, Cal/EPA, and most other state and federal health agencies.

Conclusions

EPA Region 9 has carefully reviewed the R. J. Lee Report and believes that it makes largely unsupported and incorrect conclusions about the EPA Region 9 El Dorado Hills Naturally Occurring Asbestos Exposure Assessment. EPA Region 9 has asked the United States Geological Survey (USGS) to conduct an independent study of the El Dorado County area to address several mineralogical questions raised by the R. J. Lee Report. The USGS study will use sophisticated analytical techniques (such as electron probe micro analysis) to more completely characterize the naturally occurring asbestos in terms of mineral identification and particle morphology.

All of the EPA Region 9 work in El Dorado Hills was, and continues to be, consistent with the EPA's standard operating and quality control procedures for asbestos work throughout the country.

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re:	)	Chapter 11
	)	
W.R. GRACE & CO., et al.,	)	Case No. 01-01139 (JKF)
	)	(Jointly Administered)
Debtors.	)	

UNITED STATES' STATEMENT REGARDING ASBESTOS ANALYSIS ISSUES IN W.R. GRACE'S MOTION FOR SUMMARY JUDGMENT AND CLAIMANTS' MOTION TO EXCLUDE DR. R.J. LEE'S OPINION ON CLEAVAGE FRAGMENTS (DOCKET NUMBERS 4009 & 4022)

The United States takes no position on the ultimate issue presented in the Science Trial. However, two recent Science Trial motions – W.R. Grace's Motion for Summary Judgment and Claimants' Motion To Exclude Dr. R.J. Lee's Opinions on Cleavage Fragments – present two issues related to the analysis of environmental samples for asbestos fibers that may impact the United States' claims for the recovery of costs incurred in cleaning up asbestos contamination at vermiculite processing facilities that W.R. Grace & Co.-Conn. ("Grace") owned and operated within the meaning of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9607. The first issue is Grace's contention that a protocol advanced by Dr. Lee should be followed to allegedly distinguish "cleavage fragments" from asbestos fibers. The second is Grace's contention that the use of the ASTM D5755 protocol, including the "indirect preparation method" is not scientifically valid. Grace made these same arguments to the Environmental Protection Agency ("EPA") in administrative procedures related to the Libby Asbestos Site, and EPA rejected them. This Court should similarly reject Grace's arguments on these points.

BACKGROUND

Grace owned and operated a vermiculite mine and associated processing facilities in and near Libby, Montana from 1963 until 1990. Amphibole asbestos is located in and near the vermiculite ore in the Libby deposit. As a result of the mining activities in Libby and the processing of Libby vermiculite at facilities in Libby and around the country, asbestos contamination spread to many other locations. In 1999 EPA began investigating asbestos contamination at numerous locations in and near Libby. EPA also began investigating asbestos contamination at vermiculite processing facilities nationwide. Soon after, EPA commenced cleanup actions at numerous locations in Libby. EPA has also begun cleanup actions at several vermiculite processing facilities nationwide, including, most notably, the Western Minerals Site in Minneapolis, Minnesota.

In 2001 the United States initiated an enforcement action against W.R. Grace pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), to recover EPA's response costs in Libby. This action, captioned United States v. W.R. Grace & Co.-Conn., et al., Civ. No. 01-72-M-DWM (D. Mont.), was litigated in the United States District Court for the District of Montana under the police powers exemption to the bankruptcy automatic stay. On December 19, 2002, the district court granted the United States' summary judgment motion on liability and rejected Grace's contentions that EPA's response actions were arbitrary and capricious. The district court found factual disputes as to the amount of costs EPA incurred and as to the recoverability of certain of those costs under CERCLA. These issues were the subject of a January 2003 trial. The district court has not yet issued trial rulings.

The United States' Proof of Claim in this bankruptcy case includes claims for cleanup costs at the Libby Asbestos Site and eleven vermiculite processing facilities nationwide. Issues regarding the appropriateness of analytical techniques used to determine the amount of asbestos in ZAI may have a bearing on the appropriateness of using the techniques to determine the amount of asbestos in environmental samples at vermiculite processing facilities. Accordingly, the United States has a significant interest in this Court's resolution of these issues in the context of the Science Trial.

ARGUMENT

I. Dr. Lee's Protocol for Excluding "Cleavage Fragments" from Asbestos Fibers Has Not Been Accepted in the Scientific Community.

In its Motion for Summary Judgment, Grace contends that "ZAI Claimants' estimated air concentrations would be reduced at least 'ten-fold' if the non-asbestos cleavage fragments in their samples were excluded." Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment at 25. Claimants cite an expert report that Dr. Richard Lee[1] prepared for this proposition. Id. Grace's argument here is substantively identical to the argument Grace made in extensive comments it submitted on EPA's cleanup actions in Libby (again relying on a lengthy report prepared by Dr. Lee). In its comments to EPA, Grace stated:

---

[1] In an apparent effort to bolster Dr. Lee's credibility, Grace states: "Most recently, Dr. Lee has been asked by EPA to devise a standardized protocol for the analysis of vermiculite." Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment at 8. Neither Grace's motion nor Dr. Lee's report identify a source for this contention. After due inquiry, counsel for the United States is unaware of any instance in which EPA has requested Dr. Lee to devise such a standardized protocol. On July 23, 2003, Counsel for the United States has asked counsel for Grace to provide documentary support for this claim. As of this writing, counsel for Grace has not responded.

> Approximately 74 percent of EPA's analytical results include the improper counting of cleavage fragments. Cleavage fragments do not contribute to risk and are forbidden to be counted by applicable regulations. OSHA's rulemaking in 1992 evaluated whether cleavage fragments should be counted as asbestos and concluded that the evidence does not support regulating such fragments as asbestos. 57 Fed. Reg. 24310 (June 8, 1992). The applicable methods for analyzing samples also do not allow cleavage fragments to be counted.

W.R. Grace Comments on May 2, 2002 Action Memorandum Amendment and Supplemental Administrative Record No. 2, and Supplement to Comments on the Original and Supplemental Administrative Records at 3.

EPA disagreed with Grace's (and by extension Dr. Lee's) contention that EPA's contract laboratories inappropriately counted "cleavage fragments" as asbestos in its response to Grace's comments. In this document, EPA stated:

> Dr. Lee's statements about the inappropriate counting of cleavage fragments do not have merit. EPA has counted asbestiform fibers and structures pursuant to the counting criteria of the methods being implemented. The counting criteria dictate discerning fibers by length, width, aspect ratio and specific physical characteristics. Following these rules, the EPA laboratories have consistently reported to EPA that the fibers found in air samples collected are populated almost exclusively with Libby amphibole fiber. . . . EPA, USGS and several other researchers (including researchers for W.R. Grace) have evaluated the nature of the mineral habit of the Libby amphibole asbestos in the Libby vermiculite. With the exception of Dr. Lee, these researchers have all concluded that the amphibole asbestos population is fibrous in nature. They all also agree that the amphibole asbestos in Libby vermiculite is quite friable, giving off airborne fibers when disturbed. Such research has been performed by Dr. Julie Yang of W.R. Grace, Greg Meeker of USGS, Arthur Langer, Drs. McDonald and Sebastien at McGill University, Dr. Amandus at NIOSH, Dr. Wake of the State of Montana, and others. . . . Dr. Lee's assertion that EPA has included a large number of cleavage fragments in its exposure estimates is without any factual foundation.

See Attachment 30 to Memorandum in Support of Claimants' Motion To Exclude Dr. R.J. Lee's Opinion on Cleavage Fragments (EPA's Response To Comments Received on the Second Supplement To the Export/Screening Plant Administrative Record) at 13. In sum, EPA's

contract laboratories identified asbestos in the Libby samples based on counting criteria of the relevant test method. Grace criticized EPA for not applying additional factors – not presented in the test method – that Dr. Lee contends indicate that most of the structures that qualify as asbestos in the test method are in fact "cleavage fragments" in the relevant method. EPA responded that the use of counting criteria that have not been adopted into the standard microscopial counting techniques is inappropriate.[2] EPA also noted the general scientific consensus (including Grace's pre-litigation assessments of the Libby ore body) that Libby amphibole is fibrous.

As part of EPA's administrative assessment of Grace's comments, EPA asked Mr. Gregory P. Meeker, a geologist with the United States Geological Survey and the Project Chief of both the USGS's Denver Electron Microbeam Laboratory and its Mineral Dust and Human Health Project, to review Dr. Lee's report.[3] Mr. Meeker disagreed with Dr. Lee's conclusion that EPA's asbestos fiber counts improperly include cleavage fragments. Mr. Meeker stated:

> Repeatedly throughout his report, Dr. Lee discusses the difference between cleavage fragments and asbestos and suggests that a substantial portion of the

---

[2] In its Response To Comments, EPA criticized Dr. Lee for failing to provide "concrete criteria on how he defined a cleavage fragment." See Attachment 30 to Memorandum in Support of Claimants' Motion To Exclude Dr. R.J. Lee's Opinion on Cleavage Fragments (EPA's Response To Comments Received on the Second Supplement To the Export/Screening Plant Administrative Record) at 13. In the Science Trial litigation, Dr. Lee provided Claimants with an August 31, 2001 document he authored entitled "Determination of Cleavage/Asbestiforms" which appears to set forth the unique protocol he follows to supposedly differentiate cleavage fragments from asbestos fibers. See Attachment 6 to Memorandum in Support of the Claimants' Motion to Exclude Dr. R.J. Lee's Opinion on Cleavage Fragments. The United States did not examine or evaluate the details of this protocol in the context of the Libby cleanup because – inexplicably – this document was not produced to the United States in the Libby litigation.

[3] The United States also used Mr. Meeker's assessment of Dr. Lee's report as a rebuttal expert report in the Libby litigation.

particles counted by EPA (or [EPA's] contractors) were cleavage fragments rather than asbestos. Dr. Lee suggests that the distinction between cleavage fragments and asbestos particles is clear-cut and that cleavage fragments were included in the [EPA] data even though the regulations specifically forbid inclusion of these particles. I disagree with Dr. Lee's conclusions regarding EPA counting of cleavage fragments in the Libby samples for the reasons stated below.

Cleavage is a process by which minerals break along specific crystallographic planes. Amphiboles can exhibit perfect cleavage parallel to the "c" crystallographic axis and therefore can break into smaller particles, with very high aspect ratios. Amphiboles can also grow as fibers in bundles and masses. There is also a process called parting whereby long thin amphibole particles can separate from a larger amphibole particle along planes of weakness. These different processes that comminute amphiboles form a continuum with no precise boundaries or features that are easily measurable in the laboratory. From my work with the Libby amphibole, it is clear that cleavage fragments, fibers, and a complete continuum of physical forms intermediate between these two end members, that could be called partings, are present. At a microscopic level, distinguishing between these forms on single amphibole particles can be extremely difficult to impossible.

Dr. Lee cites ISO 10312 that states "The method cannot discriminate between individual fibers of the asbestos and non-asbestos analogues of the same mineral" (i.e. asbestiform particles and cleavage fragments). This statement is true, however, Dr. Lee goes on to say that ISO 10312 specifies counting of only asbestiform minerals. In fact, ISO 10312 appears to use the terms structure, fiber, and asbestos structure interchangeably (see section 9.6.1) and requires counting of all amphibole structures greater than 0.5 µm in length with an aspect ratio of 5:1 or greater. Although cleavage fragments and asbestiform structures are defined in ISO 10312 there are no criteria or methods specified to actually distinguish between the two for the purposes of counting. The reason for this is, most likely, that it is often impossible to do this for single structures. The problem is exacerbated when there is a continuum of structures present in the sample as is the case with the Libby material. During an analysis an analyst can look for features such as splayed ends or fiber curvature to suggest that a particle is a fiber or is asbestiform. In the absence of such features the analyst must resort to the counting rules dealing with particle size and composition as outlined by the method. In other words, it is often possible to say that a particle is asbestiform but it is usually not possible to say with certainty that a given particle that meets the size criteria is not asbestiform. The policy that should be followed for structure counting is stated very clearly in OSHA Standard 1915.1001 App B "WHEN IN DOUBT COUNT," emphasis by OSHA.

Exhibit 1, Review of Expert Report of R.J. Lee, Submitted by Gregory P. Meeker, USGS

(August 30, 2002) at 1-2.

It is, therefore, wholly inappropriate for Dr. Lee to depart from the counting criteria set forth in the relevant analytical protocols in an effort to remove structures that Dr. Lee claims to be cleavage fragments. As USGS's Mr. Meeker indicates, the criteria that Dr. Lee applies (over and above the counting criteria set forth in the relevant analytical methodology) cannot demonstrate with any certainty that any given particle that meets the size criteria is not asbestiform. Needless to say, Dr. Lee's overlay criteria have not been peer reviewed or accepted by any regulatory agency. In fact, in its summary judgment brief Grace tacitly admits that Dr. Lee's approach is out of step with the scientific community. After noting that Dr. Lee has reviewed five studies[4] that attempted to measure airborne asbestos generated by the disturbance of ZAI in addition to the Lees and Mlynarek study that was performed at Grace's request (and for which Dr. Lee performed the asbestos analysis), Grace states that "Dr. Lee analyzed the air data from the foregoing studies and, when the data are corrected for scientific errors (e.g., counting non-asbestiform 'cleavage fragments' in air samples as respirable asbestos fibers and using the scientifically invalid 'indirect preparation method'), Dr. Lee concluded that the air sampling results are all fairly consistent with the air data reported in the study conducted by Drs. Lees and Mlynarek." Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment at 8-9 (emphasis added). The United States submits that the more relevant point is that when the Lees and Mlynarek study is corrected to eliminate the reduction in fiber count attributable to its

---

[4]The five cited studies are the simulation performed by the plaintiffs' experts in the Barbanti case; the simulation performed by EPA in Libby, Montana; the simulation performed by Versar, Inc. under contract with EPA; the actual demolition of a building containing ZAI in Canada by Pinchin Environmental Group; and the simulations performed by the ZAI claimants experts in the Science Trial litigation.

use of Dr. Lee's unique, non-peer reviewed protocol, its results are consistent with the results of the other five studies.

Dr. Lee's conclusion that the overwhelming number of structures in vermiculite material that other analysts (working for EPA, Claimants, and Pinchin Environmental) have identified asbestos fibers based on the dimensional criteria set forth in the various methodologies are actually cleavage fragments is inconsistent with the expert report of Dr. E.B. Ilgren that Grace attached to its summary judgment brief. Dr. Ilgren, a toxicologist, states:

> A very small proportion of cleavage fragments conform to the dimensions of asbestiform fibers. Even a smaller percentage of these ever resemble a structure longer than 5 μ and less than 0.5 μ in width. . . . Cleavage fragments tend to produce 'chunks' that are, for the most part, much thicker than their asbestiform analogues. . . . Cleavage fragments cannot form appreciable quantities of extremely long, thin "pathogenic" structures. Airborne dust composed of cleavage fragments contain very few long thin structures and the majority are not biologically relevant since . . . they are too thick to be respired (ca < 2.5 μm), too wide [to] penetrate into the deep lung (ca < 0.6μm), or too thick to comport with a pathogenic width (ca < 0.15 - 0.3μm).

Exhibit S to Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment (Expert Report of Dr. E.B. Ilgren) at 8 (emphasis in original). Thus, Dr. Ilgren recognizes that the world of Dr. Lee – where long, thin "cleavage fragments" overwhelmingly predominate – simply does not exist.

Dr. Lee's difference of opinion with Dr. Ilgren regarding the prevalence of long, thin "cleavage fragments" in Libby amphibole fatally undermines Grace's reliance on Dr. Ilgren for the proposition that cleavage fragments are harmless. See Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment at 24. It is certainly true that Dr. Ilgren's short, "chunky" cleavage fragments pose a significantly lower risk than asbestos fibers, which are often long and thin, if only because they are generally too thick to be respired and too wide to penetrate deep

into the lung. Dr. Ilgren's analysis does not support the conclusion that Dr. Lee's long, thin "cleavage fragments" are not toxic or carcinogenic.[4] Indeed, as EPA pointed out in its response to Grace's comments on the Agency's action in Libby:

> Grace grossly overstates the evidence that cleavage fragments in [and] of themselves are benign. There is considerable evidence in the literature that any difference in toxicity between cleavage fragments and fibers is explained by their native difference in morphology. That is that cleavage fragments appear to be less toxic because they tend to be shorter, thicker, and possibly less respirable than fibers. However, it is quite possible that individual, long thin cleavage fragments are as toxic as similarly sized fibers. . . .

See Attachment 30 to Memorandum in Support of Claimants' Motion To Exclude Dr. R.J. Lee's Opinion on Cleavage Fragments (EPA's Response To Comments Received on the Second Supplement To the Export/Screening Plant Administrative Record) at 13-14.

In sum, Grace and Dr. Lee contended that EPA (through its contract laboratories) included cleavage fragments in its asbestos counts related to the Libby Asbestos Site cleanup. Grace and Dr. Lee now appear to be making precisely the same argument regarding the asbestos counts in the analyses of ZAI that Claimants' experts have prepared. As reflected in the responses to this argument excerpted above, the United States believes that Dr. Lee's unique protocol for purportedly distinguishing between asbestos fibers and cleavage fragments significantly departs from accepted methodologies. Accordingly, the United States supports

---

[4]Grace's "cleavage fragment" argument is logically flawed as well. It is not disputed that exposure to Libby amphibole has caused significant illness to the Libby population. If R.J. Lee's contention that the large majority of this amphibole is non-fibrous cleavage fragments, one of two conclusions can be drawn: either Libby amphibole cleavage fragments are more toxic/carcinogenic than had previously been recognized or the remaining percentage of the Libby amphibole (that Dr. Lee is willing to admit is fibrous) is dramatically more potent than has previously been recognized. Neither conclusion supports a finding that Libby amphibole is more benign as a result of Dr. Lee's characterization (or re-characterization) of the structures.

Claimants' Motion To Exclude Dr. R.J. Lee's Opinion on Cleavage Fragments. Use of Dr. Lee's protocol to determine asbestos levels should not be used in the Science Trial or in any other context in this Bankruptcy Case.

II. The Use of the "Indirect Preparation Method" Is a Scientifically Valid Technique for Preparing Surface Dust Samples of Libby Amphibole.

Grace contends in its summary judgment brief that the analysis of surface dust samples using the ASTM D5755 protocol, which includes use of an "indirect preparation method," is not scientifically valid and that test results obtained using this protocol should be disregarded under Daubert. Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment at 16-23. Specifically, Grace contends that the "indirect preparation" of the sample elevates the number of asbestos fibers that would have been found had the direct method been applied. Id. at 20. Grace also contends that the presence of asbestos in settled dust cannot be used to predict the level of airborne asbestos that may become entrained in the air as a result of disturbance of the dust. Id. at 23.

Grace similarly objected to EPA's use of the indirect preparation method for certain of its sampling efforts related to its Libby Asbestos Site cleanup, arguing in its comments to EPA's actions (again based on an expert report that Dr. Lee submitted) that "the use of indirect preparation . . . resulted in an overestimation of asbestos counts by at least an order of magnitude." W.R. Grace Comments on May 2, 2002 Action Memorandum Amendment and Supplemental Administrative Record No. 2, and Supplement to Comments on the Original and Supplemental Administrative Records at 3. EPA responded that its use of the indirect preparation method in certain situations in Libby was appropriate given the inherent friability of Libby's amphibole asbestos and the length of the fibers of concern. Specifically, EPA stated:

> Dr. Lee indicates that the indirect preparation method biases the results by over-counting fibers, because the use of sonication to disperse the fibers in the liquid medium breaks up clusters that would, in the environment, remain intact. EPA disagrees with Dr. Lee's assertion and interpretation of the literature on direct vs. indirect preparation methods. Dr. Lee cites a report . . . by the Health Effects Institute which actually indicates that "direct and indirect sample preparation procedures have been shown to produce nearly equivalent results when used to measure fibers longer than 5µm in laboratory comparisons." In addition, Dr. Eric Chatfield has found that, in dusty environments such as those in Libby, the direct method may obscure airborne fibers, thus biasing the result. He suggests that the use of the indirect method in these cases may more accurately reflect exposure.

See Attachment 30 to Memorandum in Support of Claimants' Motion To Exclude Dr. R.J. Lee's Opinion on Cleavage Fragments (EPA's Response To Comments Received on the Second Supplement To the Export/Screening Plant Administrative Record) at 8. Accordingly, the United States believes that the ASTM D5755 protocol is a valid method for measuring Libby amphibole asbestos in settled dust and, more generally, that the "indirect preparation method" is a scientifically valid sample preparation technique, particularly when used to measure Libby amphibole asbestos fibers longer than 5µm.

The United States takes no position at this time on the use of the ASTM D5755 protocol and the indirect preparation method when applied to asbestos that is not friable or when used to measure fibers shorter than 5µm.[9] Similarly, the United States takes no position at this time on the appropriateness of using the results of settled dust analysis to quantify the amount of asbestos

---

[9]Grace's brief places great weight on the recent Armstrong decision. See Brief of W.R. Grace & Co. in Support of Motion for Summary Judgment at 16-23. However, this decision addressed the use of the ASTM D5755 protocol and the indirect preparation methods to address asbestos in dust associated with asphalt and vinyl floor tiles, which the Court expressly found was "not considered a friable material" and that it "presents a minimal risk of asbestos release in buildings." In re Armstrong World Indus., Inc., 285 B.R. 864, 867 (Bankr. D. Del. 2002). Thus, Armstrong – even assuming it was rightly decided – does not address the use of these methodologies to quantify amount of a highly friable asbestos material – like Libby amphibole asbestos – in the sample.

that will be entrained upon disturbance of the dust.

CONCLUSION

For the reasons discussed above, this Court should grant Claimants' Motion To Exclude Dr. R.J. Lee's Opinions on Cleavage Fragments. Moreover, the Court should not rely upon Dr. Lee's opinion that Libby amphibole asbestos is predominantly "cleavage fragments" or his opinion that application of the ASTM D5755 protocol and the indirect preparation method to Libby amphibole asbestos fibers longer than 5μm is inappropriate in considering W.R. Grace's Motion for Summary Judgment in the Science Trial.

Respectfully submitted,

THOMAS L. SANSONETTI
Assistant Attorney General
Environment & Natural Resources Div.
U.S. Department of Justice

/s/ James D. Freeman
JAMES D. FREEMAN
Trial Attorney
U.S. Department of Justice
Environmental Enforcement Section
999 18th Street;
Suite 945-North Tower
Denver, Colorado 80202
(303) 312-7376

COLM F. CONNOLLY
United States Attorney
District of Delaware

ELLEN SLIGHTS
Assistant United States Attorney
Office of United States Attorney
1201 Market Street
Suite 1100
P.O. Box 2046
Wilmington, DE 19899-2046

OF COUNSEL:

MATTHEW D. COHN
Enforcement Attorney
U.S. EPA Region 8
999 Eighteenth Street, Suite 700
Denver, Colorado 80202

Review of Expert Report of R.J. Lee

Submitted by Gregory P. Meeker, USGS

I have reviewed the Expert Report submitted by R. J. Lee in the matter of the United States vs. W.R. Grace and provide the following comments related specifically to issues concerning geology, mineralogy, and analytical techniques.

Fiber Morphology

Repeatedly throughout his report, Dr. Lee discusses the difference between cleavage fragments and asbestos and suggests that a substantial portion of the particles counted by EPA (or it's contractors) were cleavage fragments rather than asbestos. Dr. Lee suggests that the distinction between cleavage fragments and asbestos particles is clear-cut and that cleavage fragments were included in the EPS data even though the regulations specifically forbid inclusion of these particles. I disagree with Dr. Lee's conclusions regarding EPA counting of cleavage fragments in the Libby samples for the reasons stated below.

Cleavage is a process by which minerals break along specific crystallographic planes. Amphiboles can exhibit perfect cleavage parallel to the "c" crystallographic axis and therefore can break into smaller particles, with very high aspect ratios. Amphiboles can also grow as fibers in bundles and masses. There is also a process called parting whereby long thin amphibole particles can separate from a larger amphibole particle along planes of weakness. These different processes that comminute amphiboles form a continuum with no precise boundaries or features that are easily measurable in the laboratory. From my work with the Libby amphibole, it is clear that cleavage fragments, fibers, and a complete continuum of physical forms intermediate between these two end members, that could be called partings, are present. At a microscopic level, distinguishing between these forms on single amphibole particles can be extremely difficult to impossible.

Dr. Lee cites ISO 10312 that states "The method cannot discriminate between individual fibers of the asbestos and non-asbestos analogues of the same mineral" (i.e. asbestiform particles and cleavage fragments). This statement is true, however, Dr. Lee goes on to say that ISO 10312 specifies counting of only asbestiform minerals. In fact, ISO 10312 appears to use the terms structure, fiber, and asbestos structure interchangeably (see section 9.6.1) and requires counting of *all* amphibole structures greater than 0.5 μm in length with an aspect ratio of 5:1 or greater. Although cleavage fragments and asbestiform structures are defined in ISO 10312 there are no criteria or methods specified to actually distinguish between the two for the purposes of counting. The reason for this is, most likely, that it is often impossible to do this for single structures. The problem is exacerbated when there is a continuum of structures present in the sample as is the case with the Libby material. During an analysis an analyst can look for features such as splayed ends or fiber curvature to suggest that a particle is a fiber or is asbestiform. In the absence of such features the analyst must resort to the counting rules dealing with particle size and composition as outlined by the method. In other words, it is often possible to say that a particle is asbestiform but it is usually not possible to say with certainty that a given particle that meets the size criteria is not asbestiform. The policy that should be followed for structure counting is stated very clearly in OSHA Standard 1915.1001 App B "WHEN IN DOUBT COUNT", emphasis by OSHA.

In his Expert Report Dr. Lee makes comparisons of data used by EPA in risk calculations to fiber size data from a paper by Amandus, et. al., 1987. Dr. Lee argues on the basis of this data that the physical nature of the fibers derived from the mine in Libby has somehow changed since the mine closed. It is my opinion that this conclusion is not valid. The data from Amandus et. al., 1987 was obtained from 8 air samples provided by W.R. Grace from the mill and screening plant. There is no information on how or why these samples were collected and what they actually represent. Each of these samples does represent a snapshot in time by sampling some process or event. The fibers used in the Amandus study could be totally unique and non-representative of the average fiber released from the mine over time and currently present in the environment in Libby. Even if the samples were representative of the mill and screening plant over time, which

has not been demonstrated by Dr. Lee, there were many other activities which could have introduced hazardous material into Libby including the distribution of raw material directly from the mine. Any comparison between raw and processed material, such as material coming from the mill, may not be valid (see Figures 1 and 2 in Dr. Lee's Expert Report). In addition, the data from the Amandus paper includes only fibers greater than 5 μm in length and greater than 0.45 μm in width whereas the EPA data includes fibers of all sizes. It is difficult to comment on the appearance of the Amandus and EPA data as presented by Dr. Lee because he does not go into any detail about how he selected and presented the data in his Expert Report.

Other historical data available from published reports and from W.R. Grace records (e.g. report from P. Sebastien to H.A. Eschenbach, W.R. Grace, 10 June 1983) appears to be quite similar to the present day EPA air sample data and to the size data from the bulk samples presented in my Expert Report. It is difficult to understand why the Amandus data should be different and more representative of historical fiber size distributions than other available data sets.

Mineralogy

In his Expert Report, Dr. Lee argues that the EPA did not recognize the complexity of the mineralogy of the Libby amphibole and did not take the proper steps to address that complexity in their studies. I believe the EPA has been very aware of the mineralogical complexity of the Libby amphibole since April of 2000 if not before and has developed an appropriate strategy to deal with that complexity. The mineralogy of the Libby amphibole is discussed in detail in my Expert Report submitted for these proceedings. Dr. Lee also presents a discussion of the Libby amphibole mineralogy and the Leake, et. al., 1997 classification scheme in his Expert Report. Dr. Lee fails to point out, however, that it is not possible to employ the Leake classification method with the accepted regulatory analytical methods. The analytical methods approved for regulatory analysis of asbestos fibers simply cannot distinguish between tremolite, sodic tremolite, richterite and winchite. The reasons for this are outlined in my Expert Report. The procedure

adopted by EPA, that is to classify and treat the material as Libby type amphibole or Libby type asbestos, is perfectly reasonable given this unusual situation.

With regard to Dr. Lee's assertion that only a portion of the Libby amphibole is subject to regulation (page 53 of his Expert Report) I again disagree. On page 23 of his Expert Report Dr. Lee says *"The list found in step 3.6 of ISO 10312 is typical of all current TEM methods – chrysotile, crocidolite, gunerite asbestos (amosite), anthophyllite asbestos, tremolite asbestos, and actinolite asbestos. No published TEM method calls for the inclusion of non-regulated amphiboles or cleavage fragments in the asbestos count."* This is not exactly what is said in ISO 10312. The method reads as follows:

> *3.6 Asbestos: A term applied to a group of silicate minerals belonging to the serpentine and amphibole groups which have crystallized in the asbestiform habit, causing them to be easily separated into long, thin, strong fibers when crushed or processed. The chemical Service Registry Numbers of the most common asbestos varieties are: chrysotile (12001-29-5), crocidolite (12001-28-4), gunerite asbestos (amosite) (12172-73-5), anthophyllite asbestos (77536-67-5), tremolite asbestos (77536-68-6) and actinolite asbestos (77536-66-4).*

Clearly the wording *most common* recognizes the existence of other asbestiform amphiboles and nowhere in the method does it say not to count these other forms. One possible reason for this is that the authors of the document recognized that no currently acceptable regulatory method, certainly the TEM methods, can distinguish between the different amphiboles as defined by Leake, et. al., 1978. A second reason may be that none of the methods clearly define the complete chemical boundaries for the different amphiboles.

In my Expert Report I have discussed the ambiguity of mineral nomenclature in the regulatory literature. Tremolite has been the industrial (and later regulatory) name

applied to the Libby amphibole from the early 1900's until the present day (see Appendix A of my Expert Report). This is supported by numerous W.R. Grace reports and documents, an example being a 12 May, 1983 letter from H.A. Eschenbach, W.R. Grace & Company to Mr. Allan Harvey, R.T. Vanderbuilt Co. referring to the amphibole from the Libby Montana operation as "asbestiform tremolite." A second example is the report mentioned above from P. Sebastien, McGill University to H.A. Eschenbach wherein Sebastien states "*Every fiber analyzed by EDSX* [EDS] *has yielded a spectrum similar to that shown in Figure 8. Elements identified were Na, Mg, Si, K, Ca, Fe. General features of the spectra were compatible with a mineral of the tremolite-actinolite series.*" These documents were written five years after the first International Mineralogical Association, Committee on Amphibole Nomenclature proposal to classify amphiboles of the composition found in Libby as winchite and richterite (Leake, et. al, 1978). Published, peer reviewed papers such as Amandus et. al., 1987 and Langer, et. al., 1974 also refer to the Libby asbestos as tremolite. Although the academic mineralogical names for many of the amphiboles have changed over the years, as outlined in Dr. Lee's Expert Report, the industrial and regulatory names have not.

Analytical Issues

In his Expert Report, Dr. Lee implies that much of the EDS spectral data submitted by EPA's contract laboratories is incorrectly interpreted or is improperly collected so as to render it unusable. In support on this argument Dr. Lee provides three EDS spectra (Figures 6, 7 and 8 in his report). The spectrum presented by Dr. Lee in Figure 6 of his report shows sample peaks for Mg, Si, S, Ca, and Fe. Dr. Lee argues that this is a spectrum of amosite plus gypsum and that the data was misinterpreted by the EPA contract laboratory as Libby amphibole. Gypsum is a common alteration mineral in Ca-rich, weathered rocks such as those found at the Libby mine site. It is quite possible that the spectrum is gypsum and an amphibole. This would be consistent with an asbestos fiber with adhering particles of gypsum. It is also possible that the spectrum is tremolite with an inclusion or adhering particle of iron sulfide or sulfate. The Libby amphiboles contain a significant amount of altered pyrite as shown in Figure 2 of my Expert Report.

There is no way to determine the true origin of the sulfur peak without going back to the original sample and reanalyzing the particle. I disagree with Dr. Lee that this spectrum is inconsistent with Libby amphibole. Dr. Lee also argues that the spectra shown in Figures 7 and 8 of his Expert Report were acquired under overload count conditions and implies that this renders them unusable for identification. I find no fault with the appearance of these spectra and see no reason to suspect that they were acquired at overload count rates. Even if the spectra were acquired with higher than normal count rates, the peaks are in the correct positions and the spectra are perfectly usable for identification of the elements present. On page two of his Expert Report Dr. Lee states that the EPA biased exposure estimates by "misidentification of vermiculite, talc, and mica as asbestos", he presents no evidence for this in his report.

Gregory P. Meeker

30 Aug 02
Date

NO. 04-CI-00274 ANDERSON CIRCUIT COURT

IN RE: ASBESTOS PERSONAL INJURY LITIGATION

JOHNNY FRANKLIN, INDIVIDUALLY, AND AS ADMINISTRATOR OF THE ESTATE OF FLORA FRANKLIN PLAINTIFFS

v.

GENERAL MOTORS CORP, ET AL. DEFENDANTS

ORDER

The Court held a hearing on March 29, 2007 on Plaintiff's Motion for an Order Requesting Sanctions, or in the Alternative, Default Judgment against Defendant, R.T. Vanderbilt, Inc. Plaintiff was represented by Joseph D. Satterley. R.T. Vanderbilt was represented by H. Lane Young and Eric Ludwig. Having considered the record, arguments of counsel, and the Court being otherwise sufficiently advised;

IT IS HEREBY ORDERED that the sanctions against the Defendant, R.T. Vanderbilt is hereby denied at the present time. The Court heard arguments again regarding the requested discovery that was subject to hearing on February 21, 2007. The Court herein reaffirms it's rulings from the hearing on February 21, 2007.

IT IS FURTHERED ORDERED that R.T. Vanderbilt shall fully and completely answer Plaintiff's Interrogatories 4, 10 and 14 within fifteen (15) days of the date of the hearing.

IT IS FURTHER ORDERED that R.T. Vanderbilt must investigate the total amount of money it spent to classify it's talc as non-asbestos containing talc, including obtaining documents from the experts involved and shall obtain copies of all documents from their employees relating to this matter. Furthermore, R. T. Vanderbilt must obtain from their insurance companies, all documents responsive to Interrogatory No. 4. R.T. Vanderbilt shall likewise obtain all of the documentation it has regarding monies paid to Dr. Arthur Langer for any and all work and produce those documents to Plaintiff's counsel within twenty (20) days. R.T. Vanderbilt's counsel advised the Court that they would voluntarily answer Interrogatory No. 14, fully and

ANDERSON CIRCUIT COURT
JAN D. ROGERS, CLERK
ENTERED: 4-13-07
BY: ....

completely, including all employees of R.T. Vanderbilt, along with employees of International Talc and Gouverneur Talc.

It was previously ordered by the Court that R.T. Vanderbilt was to produce all documents requested by Plaintiff's counsel in Plaintiff's Request for Production of Documents. The Court previously ordered at the February 21, 2007 hearing that to the extent that R.T. Vanderbilt claims that they do not have documents, they must certify under oath that such documents are not in existence. Having further heard from Plaintiff's counsel and Defendant's counsel with regards to Plaintiff's original Request for Production of Document No. 3;

IT IS HEREBY ORDERED that Plaintiff's Motion is once again granted and R.T. Vanderbilt must produce all documents relating to the sale of talc to Florida Tile within fifteen (15) days of March 29, 2007.

IT IS FURTHER ORDERED that R.T. Vanderbilt is compelled to fully and completely respond to Supplemental Request for Production of Document No. 3 and shall provide a list of all documents and exhibits introduced by both Plaintiff's counsel and R.T. Vanderbilt's counsel in the trial of *Hirsch v. Carborundum*. Plaintiff's counsel will then advise defense counsel which of the itemized documents that Plaintiff's counsel requests. R.T. Vanderbilt must provide copies of the requested documents to Plaintiff's counsel within fifteen (15) days.

IT IS FURTHER ORDERED that Plaintiff's Motion to Compel Supplemental Request for Production of Document No. 4 is granted. R.T. Vanderbilt shall produce their workers' compensation claims made against R.T. Vanderbilt and/or Gouverneur Talc Company asserting any type of industrial related disease, including lung cancer and/or mesothelioma. R.T. Vanderbilt shall produce to Plaintiff's counsel copies of all documents related to these workers' compensation claims on or before April 13, 2007, which is fifteen (15) days from the date of the hearing.

THIS COURT FURTHER ORDERS that Plaintiff's counsel and Defendant's counsel enter into a protective order not to disclose the workers' compensation documents to anyone

other than experts in this case. This protective order will be in place until further orders of the Court.

IT IS FURTHER ORDERED that Plaintiff's Motion to Compel Supplemental Request for Production of Documents 5, 6 and 7 is granted. R.T. Vanderbilt shall produce copies of all it's certified financial statements from Deloitte & Touche as well as it's federal income tax returns as set forth in Plaintiff's Supplemental Request for Production of Documents 5, 6 and 7. These documents must be produced by April 13, 2007.

THE COURT ALSO ORDERS Plaintiff's counsel and Defendant's counsel to enter into a protective order not to disclose this financial information to anyone other than the necessary experts in this case. The protective order will be in place until further orders of the Court.

This Court advised R.T. Vanderbilt's counsel that if these items are not produced in accordance with this Court's order, R.T. Vanderbilt will be in contempt of this Court's Order. Full compliance with this Order is expected by the parties.

The Court has set another hearing for May 11, 2007 at 9:00 a.m. in Anderson Circuit Court to address Plaintiff's Motion to Determine the Sufficiency of R.T. Vanderbilt's admissions. The parties are encouraged to discuss these admissions in an attempt to narrow the issues to be addressed at the hearing. If counsel is able to agree on the admissions, counsel should advise the Court that the hearing will not be necessary.

ENTERED this 11 day of April, 2007.

JUDGE, ANDERSON CIRCUIT COURT

Johns-Manville
Products Corporation

Filtration & Minerals Division

Greenwood Plaza
Denver, Colorado 80217
(303) 770-1000

April 18, 1975

Mr. H. B. Vanderbilt, President
R. T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06855

Dear Mr. Vanderbilt:

Your courtesy in meeting with us earlier this week is greatly appreciated. We felt that it was important for you to understand our position with respect to talc labeling and the various actions we are currently taking in the market place in this regard.

Our intent in sharing with you our analytical data on your products is an attempt to be helpful and is most certainly friendly. In this regard, if we can in any way be of assistance to your technical people through an exchange of information and samples we would be glad to do so. If Dr. Thompson would care to meet with our Research people to review our findings we would be pleased to arrange this for him. This kind of technical exchange would be helpful to both companies.

Following our meeting in Norwalk, I have reviewed with Dr. Paul Kotin, Medical Director for Johns-Manville Corp., the various points we discussed. He has indicated that if you so desire he would gladly meet with you and various members of your staff to describe the medical aspects of the situation.

Will you please convey my thanks to the other members of your group who attended our meeting on April 16.

Sincerely,

R. S. Lamar, Manager
Filtration and Minerals Division
Growth Development

dla

cc: Dr. Paul Kotin
Dr. Fred Pundsack

bcc:
S. W. Schulmeyer
H. R. Keefe
RSL chrono
file P. T. Vanderbilt
file
C. J. Sulewski
P. A. Martinson
R. P. Carter
W. C. Streib

CRMC-BEV-000375

Johns-Manville Internal Correspondence

R. S. Lamar - R&D Date October 23, 1974

V. E. Wolkodoff - R&D

Distribution on Reverse Side

TEM AND SELECTED AREA DIFFRACTION PATTERNS OF ASBESTOS MINERALS IN FOUR TALC SAMPLES PRODUCED BY R. T. VANDERBILT COMPANY

1. At your request, I was able to contract time on the Philips 200 electron microscope at Denver Research Institute to confirm by selected area diffraction patterns, the presence of chrysotile, anthophyllite and tremolite in all the R. T. Vanderbilt talcs designated Nytal 200, Nytal 400, Asbestine 3X, and Asbestine 325X (please refer to my letter of October 9, 1974, which is based basically on FDA optical methods and the use of our RCA electron microscopes to confirm chrysotile). It was felt that selected area diffraction patterns of the asbestos minerals using the Philips 200 would lend positive identification - a type of analysis which cannot be done on our RCA EMU-3B model.

2. Table No. 1 not only identifies samples, but also identifies all TEM prints and selected area diffraction patterns of the 33 prints attached to this letter. The TEM plates are always on file. The microscope constant ($L\lambda$) was derived by averaging 21 microscope constant values based on lines of Au and Pd. The microscope constant is:

$$L\lambda = 4.451\ \text{Å cm} \pm 0.003$$

To calculate d-spacing in Angstrom units, the following formula was used:

$$\frac{L\lambda\ (\text{Å cm})}{\text{spot pair radius (cm)}} = \text{d-spacing (Å)}$$

3. Chrysotile, anthophyllite, and tremolite were all found in each of the four R. T. Vanderbilt talc samples. Particular data for each sample are found in Table No. 1 and appropriate attached electron diffraction patterns.

V. E. Wolkoff

V. E. Wolkodoff

jc

Attachments

Distribution:

R. B. Carter*	- 4N	F. L. Pundsack	
E. E. Fenner	- 4N	J. P. Leineweber*	
Paul Kotin, M.D.	- 4N	W. C. Streib	
W. B. Reitze	- 4N	S. Speil*	
F. J. Colon, Jr.	- 4N	R. S. Lamar*	
C. L. Swallow	- 4N	V. E. Wolkodoff*	
A. C. F. Finkbiner, III	- 5W		
J. A. McKinney	- 5W		
B. R. Keefe*	- 2W		
P. A. Martinson	- 2W		
C. J. Sulewski	- 2W		
W. L. VanDerbeek	- 2S		
R. G. Rieke	- 2S		

*Prints attached only to those names followed by asterisk.

TABLE 1

TEM Tabulation of Micrographs and Selected Area Diffraction Patterns of Four Talc Samples From R. T. Vanderbilt Co.

No.	Lab. No.	Vanderbilt Designation	TEM Plate No., Magnification	Selected Area Diffraction Pattern, 35X	Remarks
1	RC 74255-1	Nytal 200	2301A, 11,000X	-	-
2	RC 74255-1	Nytal 200	2317A, 16,000X	-	-
3	RC 74255-1	Nytal 200	2305A, 22,000X	-	Chrysotile fiber
4	RC 74255-1	Nytal 200		2305B	Pattern is of widest fiber in 2305A, Chrysotile
5	RC 74255-1	Nytal 200	2306A, 22,000X	-	Anthophyllite fiber
6	RC 74255-1	Nytal 200	-	2306B	Anthophyllite fiber in 2306A
7	RC 74255-1	Nytal 2-0	2307A, 22,000X	-	Tremolite fiber
8	RC 74255-1	Nytal 200	-	2307B	Tremolite fiber in 2307A
9	RC 74255-2	Nytal 400	2302D, 11,000X	-	-
10	RC 74255-2	Nytal 400	2318C, 16,000X	-	-
11	RC 74255-2	Nytal 400	2308A, 22,000X	-	Chrysotile fiber
12	RC 74255-2	Nytal 400	-	2308B	Pattern of Chrysotile above
13	RC 74255-2	Nytal 400	2309A, 22,000X	-	Anthophyllite fiber
14	RC 74255-2	Nytal 400	-	2309B	Pattern of Anthophyllite above
15	RC 74255-2	Nytal 400	2310A, 22,000X	-	Tremolite fiber
16	RC 74255-2	Nytal 400	-	2310B	Pattern of Tremolite above
17	RC 74255-3	Asbestine 3X	2303D, 11,000X	-	-
18	RC 74255-3	Asbestine 3X	2319D, 16,000X	-	-
19	RC 74255-3	Asbestine 3X	2311A, 22,000X	-	Chrysotile fiber on bottom
20	RC 74255-3	Asbestine 3X	-	2311B	Pattern of Chrysotile above
21	RC 74255-3	Asbestine 3X	2312A, 22,000X	-	Anthophyllite fiber
22	RC 74255-3	Asbestine 3X	-	2312B	Pattern of Anthophyllite above
23	RC 74255-3	Asbestine 3X	2313A, 22,000X	-	Tremolite fiber
24	RC 74255-3	Asbestine 3X	-	2313B	Pattern of Tremolite above
25	RC 74255-4	Asbestine 325	2304A, 11,000X	-	-
26	RC 74255-4	Asbestine 325	2322A, 16,000X	-	Fiber is combined Chrysotile and Amphibole

Table 1 continued

Ex.	Lab. No.	Vanderbilt Designation	TEM Plate No., Magnification	Selected Area Diffraction Pattern, 35X	Remarks
27	NC 7h255-h	Asbestine 325	-	2322B	Chrysotile pattern superimposed on Amphibole pattern
28	NC 7h255-h	Asbestine 325	2314A, 22,000X	-	Chrysotile fiber
29	NC 7h255-h	Asbestine 325	-	2314B	Pattern of Chrysotile above
30	NC 7h255-h	Asbestine 325	2315A, 22,000X	-	Longest fiber is Anthophyllite
31	NC 7h255-h	Asbestine 325	-	2315B	Pattern of Anthophyllite above
32	NC 7h255-h	Asbestine 325	2316A, 22,000X	-	Largest fiber is Tremolite
33	NC 7h255-h	Asbestine 325	-	2316B	Pattern of Tremolite above

[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF EMERGENCY AND
REMEDIAL RESPONSE

June 19, 2003

MEMORANDUM

Subject: RJ Lee Asbestos Testing Laboratories

From: Michael B. Cook, Director /s/
Office of Emergency and Remedial Response (OERR)

To: Superfund Regional Managers

The purpose of this memorandum is to encourage Superfund Regional Project Managers to thoroughly review any site management decision for asbestos contaminated sites where analytical data generated by asbestos testing laboratories associated with RJ Lee Group, Inc. were critical.

Data which the lab produced may have been used or submitted to EPA Regions by PRPs in support of site evaluation activities. Documents which were submitted pursuant to recent litigation (related to Libby, Montana cost-recovery issues) have raised questions regarding laboratory performance at the RJ Lee Group, Inc. asbestos testing laboratory in San Leandro, California. In particular, an audit was performed by the Quality Assurance and Technical Services (QATS) contractor for OERR's Analytical Operations Center (AOC). However, it is important to note that this audit was performed at the request of EPA Region 9 to resolve discrepancies in the results of split samples for a site. The RJ Lee Group, Inc. is not part of the EPA Contract Laboratory Program (CLP).

Issues documented in the on-site audit include, but are not limited to the following:

- Lack of appropriate laboratory specific Standard Operating Procedures (SOP) describing precise laboratory procedures, especially for operations that may be modifications or deviations from published methodology.

- Lack of adequate documentation of results from microscopic examination of samples. While an analyst might identify a fiber as chrysotile, the specific characteristics of the fiber under microscopic examination (e.g. color, refractive indices, morphology, etc.) were not documented. Therefore, there was no defensible record of how the sample was evaluated.

- Failure to adequately perform method- required Quality Assurance (QA) analyses. Methods require laboratories to analyze sample duplicates and QA reference slides at specified frequencies. The laboratory failed to perform QA analysis at the frequencies detailed by the methods. The laboratory was cited for this failure during a 1999 internal QA audit, but has failed to provide appropriate corrective action.

- Failure to perform analyses in a manner that provides for control of cross contamination of samples.

- Lack of supervisory review of analytical data.

- Lack of documentation supporting credentials and training of analysts.

- Inconsistencies in client reports in which reported results do not match raw data.

Based upon formal observations made during the on-site audit at the San Leandro laboratory, it is imperative that Regions obtain all relevant documentation for any data generated by this laboratory to make sure they are accurate, properly documented, and fully defensible in court. Where this is not found to be possible, the Region should collect and analyze new samples which meet these criteria.

Further, there is concern that questionable practices observed at the San Leandro facility may also reflect the procedures used at other RJ Lee Group testing laboratories throughout the United States. Therefore, OERR is recommending that Regions review data for all RJ Lee Group testing facilities that may have been involved in testing of asbestos samples, including samples of vermiculite products or raw ore which may have come from Libby, Montana, and may be contaminated with asbestos.

To provide for a thorough data review of analytical results, OERR suggests that Regions request, at a minimum, the raw data and information listed below. The data reviewer should review the data, and use them to validate final results received from the laboratory:

- Copies of signed Chain-of-Custody (COC) documents for each sample submitted.

  - For legal defensibility, each COC must be signed and dated for when the laboratory took control of the samples.

- Copies of final reports signed by supervisory personnel certifying the results of the analysis as accurate and meeting SOP and QA criteria.

- Copies of pertinent laboratory generated SOPs, not just copies of a formal agency generated method.

  - Reviewers should ensure that samples were analyzed according to the SOP, and that no modifications were made to a formal method that are not

included in the SOP. Also, the reviewer should ensure that if modifications were made to the lab SOP on certain samples, the modifications are noted in a laboratory narrative indicating the modifications to the SOP and the reasons for the modifications.

- Copy of laboratory Quality Assurance Program Plan (QAPP).
  - Regions should review QAPP for adequacy and ensure laboratory has followed QAPP for associated samples.
- Raw data bench sheets showing the results of specific point count operations and the results of fiber characteristic determinations.
  - For each fiber identified as asbestiform, the raw data bench sheet should contain documented information on the characteristics of the fiber (e.g. morphology refractive index, color, etc. that caused the analyst to confirm the identity of the fiber.
- Reports and raw data that indicate the frequency and results of QA analyses (such as duplicate analyses and reference slide analyses).
  - The Region should ensure that the proper frequency of QA analysis was performed (should be stated in the laboratory SOP and formal reference method), and that results of QA met criteria. Also, the reviewer should ensure that for samples not meeting QA criteria, corrective action has been taken and documented.

As this issue develops, OERR will work with the Regional EPA offices to devise a more comprehensive list of documents that can help verify the accuracy of laboratory analytical results.

While it may be common practice in some instances for a laboratory to not send a client a full raw data package confirming analytical results, laboratories are responsible for keeping raw data at the laboratory. If a laboratory either refuses to provide raw data for data confirmation review, or states that the raw data no longer exists (within a reasonable time frame), then the operations of the laboratory and the client's analytical results may be questionable. EPA should consider this issue to be pivotal in deciding how to use analytical data to establish priorities for cleanup at potentially contaminated sites.

If you have any technical questions or concerns on analytical data, please call Terry Smith with AOC (703-603-8849), or if you have technical or administrative concerns dealing with Libby associated operations, please call Dan Thornton with OERR (703-603-8811).

ARTHUR M. LANGER

January 28, 2007

Mr. Peter York, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia 30308

Re: RTV Bridgeport Talc Cases
Vella, Gaudette and Cable v. RT Vanderbilt Talc
Services to January 28, 2007

Dear Mr. York:

Please accept this statement as a bill for services rendered in the above-cited matter:

Read and evaluate documents forwarded to me December 14, 2006, by Yuka Kidambi of your office, regarding the above-cited three plaintiffs. Discussion concerning my opinions in these cases with Mr. Bruce Welch of your office. Meeting In New York January 24, 2007, with Ms. Elizabeth O'Neill, regarding deposition preparation.

27.5 hours billed at $400 per hour. $11,000.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

ARTHUR M. LANGER

November 4, 2006

Mr. Albert Parnell, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia 30308

Re: Peter Hirsch v. R.T. Vanderbilt et al.
Services October 25 – November 1, 2006

Dear Mr. Parnell:

Please accept this statement as a bill for services rendered in the above-cited matter:

Prepare for trial by review of documents; Travel to New Brunswick; Meetings with counsel to discuss and plan trial strategy and testimony; Testify at trial.

Professional time: Travel and discussions with counsel, one 8-hour day, billed at $400 per hour. Testimony provided on October 31 and November 1, 2006, one 8-hour day billed at $500 per hour.

Related travel expenses: Travel by private car, 136 miles @ $0.445, $60.52, Hotel bills, 10-31, 11-01, $515.70, Tolls, bridges, $25.00, Miscellaneous $20.

Total: $7821.22

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

ARTHUR M. LANGER

October 25, 2006

Mr. Albert Parnell, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia

Re: Peter Hirsch v. R.T. Vanderbilt et al.
Services to October 24, 2006

Dear Mr. Parnell:

Please accept this statement as a bill for services rendered in the above-cited matter:

Gather and copy reprints and other materials that might be used for jury presentation at time of trial; Review of Hull paper, and critique of the Hull et al. paper; Review of file documents pertaining to RTV Talc (mineralogy and other properties); Review of papers pertaining to aspect ratio, the nature of cleavage fragments, the nature of asbestiform minerals; Meetings in New York City with Mr. Parnell, October 3 and October 23, regarding trial testimony of plaintiff's experts (for cross examination) and trial testimony of Dr. Langer; Meeting in Norwalk, CT, with Mr. Kelse and Mr. Reiger regarding videos made in 1983 regarding RTV Talc and regulatory issues, size distribution of NYTAL 100, respirable fraction of NYTAL 100, melting points of amphiboles in RTV Talc; Review of papers pertaining to RTV Talc deposit and human epidemiological studies (Honda et al.); Deposition testimonies of Mr. Peter Hirsch November 6 and 13, 2003.

24.25 hours billed at $400 per hour. $9,700.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

4/1/04. 189577

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
12/31/06	123106	EXPERT WITNESS FEES (HIRS	14,530.19	.00	14,530.19

DATE 1/18/07 VENDOR NO. 13589 TOTAL ▶ 14,530.19

R. T. VANDERBILT COMPANY, Inc.

NO. 257063

WACHOVIA
Wachovia Bank, N.A.
300 Main Street
Stamford, CT 06904

R.T. VANDERBILT COMPANY, Inc.
30 WINFIELD STREET
NORWALK, CT 06855

NO. 257063

51-110
211

DATE 1/18/07

PAY ***14,530.19***** DOLLARS
TO THE ORDER OF

AMOUNT
***14,530.19

DR. ARTHUR M. LANGER

VOID AFTER 90 DAYS FROM DATE OF CHECK

R.T. VANDERBILT COMPANY, Inc.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈257063⑈ ⑆021101408⑆ 2000013126458⑈

ARTHUR M. LANGER

April 28, 2005

Ms. Nora Grimbergen, Esquire
Hoagland, Longo, Moran, Dunst & Doukas
40 Paterson Street
P. O. Box 480
New Brunswick, New Jersey 08903

Re: Peter Hirsch v. R. T. Vanderbilt, et al.

Dear Ms.Grimbergen:

Please accept this statement as a bill for services rendered in the above-cited matter:

Read and evaluate materials pertaining to the above-cited litigation, including talc reprints, talc mineralogy, talc documents, expert reports, paper by Hull et al., response to Hull et al., preparation for deposition.

16.25 hours billed at $300 per hour. $4875.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

ARTHUR M. LANGER

October 25, 2006

Mr. Albert Parnell, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia 30308

Re: Peter Hirsch v. R.T. Vanderbilt et al.
Services to October 24, 2006

Dear Mr. Parnell:

Please accept this statement as a bill for services rendered in the above-cited matter:

Gather and copy reprints and other materials that might be used for jury presentation at time of trial; Review of Hull paper, and critique of the Hull et al. paper; Review of file documents pertaining to RTV Talc (mineralogy and other properties); Review of papers pertaining to aspect ratio, the nature of cleavage fragments, the nature of asbestiform minerals; Meetings in New York City with Mr. Parnell, October 3 and October 23, regarding trial testimony of plaintiff's experts (for cross examination) and trial testimony of Dr. Langer; Meeting in Norwalk, CT, with Mr. Kelse and Mr. Reiger regarding videos made in 1983 regarding RTV Talc and regulatory issues, size distribution of NYTAL 100, respirable fraction of NYTAL 100, melting points of amphiboles in RTV Talc; Review of papers pertaining to RTV Talc deposit and human epidemiological studies (Honda et al.); Deposition testimonies of Mr. Peter Hirsch November 6 and 13, 2003.

24.25 hours billed at $400 per hour. $9,700.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

ARTHUR M. LANGER

November 4, 2006

Mr. Albert Parnell, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia 30308

Re: Peter Hirsch v. R.T. Vanderbilt et al.
Services October 25 – November 1, 2006

Dear Mr. Parnell:

Please accept this statement as a bill for services rendered in the above-cited matter:

Prepare for trial by review of documents; Travel to New Brunswick; Meetings with counsel to discuss and plan trial strategy and testimony; Testify at trial.

Professional time: Travel and discussions with counsel, one 8-hour day, billed at $400 per hour. Testimony provided on October 31 and November 1, 2006, one 8-hour day billed at $500 per hour.

Related travel expenses: Travel by private car, 136 miles @ $0.445, $60.52, Hotel bills, 10-31, 11-01, $515.70, Tolls, bridges, $25.00, Miscellaneous $20.

Total: $7821.22

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	GROSS INVOICE AMT	DISCOUNT	NET AMOUNT
1/27/93	012793	ONE DAY-1/16/93	500.00	.00	500.00

DATE 2/04/93 VENDOR NO. 11214 TOTAL ▶ 500.00

R. T. VANDERBILT COMPANY, Inc.

NO. 157135

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

157135
NO. 157135

1
5144
1-8
210

DATE 2/04/93

PAY ******500.00****** DOLLARS
TO THE ORDER OF

******500.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

ANN G. WYLIE
DEPARTMENT OF GEOLOGY
UNIVERSITY OF MARYLAND
COLLEGE PARK, MD 20742-

R. T. VANDERBILT COMPANY, Inc.

Authorized Signature

NON NEGOTIABLE

Authorized Signature

⑈0000157135⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03236

3/05/93 030593	SAMPLE ANALYSIS	300.00	.00	300.00

DATE 3/11/93 VENDOR NO. 13137 TOTAL ▶ 300.00

R. T. VANDERBILT COMPANY, Inc.

NO. 157936

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

157936 1
NO. 157936 5144 1-8 210

DATE 3/11/93

PAY ******300.00***** DOLLARS
TO THE ORDER OF

[redacted]******300.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

UNIVERSITY OF MARYLAND
P.O. BOX 41427

BALTIMORE, MD 21203-6427

R. T. VANDERBILT COMPANY, Inc.

Authorized Signature

NON NEGOTIABLE

Authorized Signature

⑈0000157936⑈ ⑆021000089⑆ 05359188⑈

RT-DOCS/Compel-03237

[redacted]

6/23/95	062395	CONSULTATION/REVIEW IT325	200.00	.00	200.00

DATE 6/29/95 VENDOR NO. 11214 TOTAL ▶ 200.00

R. T. VANDERBILT COMPANY, Inc.

NO. 177184

[redacted]

177184 1

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 177184

5144
1-8
210

DATE 6/29/95

PAY
TO THE ORDER OF

******200.00***** DOLLARS

******200.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

ANN G. WYLIE
DEPARTMENT OF GEOLOGY
UNIVERSITY OF MARYLAND
COLLEGE PARK, MD 20742-

R. T. VANDERBILT COMPANY, Inc.

NON-NEGOTIABLE

Authorized Signature

Authorized Signature

⑈0000177184⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03238

CHECK REQUISITION

R.T. VANDERBILT COMPANY, INC. #0602395

11814

DATE: June 23, 1995

PLEASE ISSUE CHECK TO: Ann Wylie, Ph.D.

AMOUNT: $200.00

ACCOUNT: Corporate 829 5034.1030

DEPARTMENT: Health, Safety & Environmental

DESCRIPTION ON CHECK STUB: Consultation/Review IT325

POSTED 114321

Authorized

Please return check to: Sue Kelly (ASAP)

RT-DOCS/Compel-03239

2/03/98 32685-2	FELLOWSHIP FOR THE STUDY	16,750.00	.00	16,750.
2/03/98 32686-2	MINERALOGICAL CHARACTERIS	11,753.00	.00	11,753.

DATE 2/12/98 VENDOR NO. 13137 TOTAL ▶ 28,503.00

R. T. VANDERBILT COMPANY, Inc.

NO. 197781

R.T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 197781

5144
1-6
210

DATE

PAY
TO THE ORDER OF

DOLLARS

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, INC.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈197781⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03240

UNIVERSITY OF MARYLAND

OFFICE OF THE COMPTROLLER

13137

February 3, 1998

Contract No.: FCPO AGRDT10/21/92
Contract Period: 01/01/93 to 12/31/97
Univ. of Md No.: 32685-2
Estimated Cost: $33,500.00
Project Director: Dr. Ann G. Wylie
Department: GEOLOGY

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
P. O. BOX. 5150
NORWALK, CT 06856 - 5150
Attn: MS. SUE KELLY

POSTED P16494D

FEI No.: 52-6002033

Invoice No.: 32685-2

For services rendered on project entitled:

desc.
" Fellowship for the Study of Industrial Talc ."

$16,750.00 ok

Please remit the payment to the Office of Contract & Grant Accounting within 30 days, Room 1410 Service Building; College Park, MD 20742. Please return one copy of this invoice with your remittance.

I certify that the above invoice is just and correct and the payment has not been received.

UNIVERSITY OF MARYLAND

829 5034.1030

RT-DOCS/Compel-03241

Ann M. Holmes, Manager
Contract & Grant Accounting

this Check MUST be [redacted] to John Kelse

1410 SERVICE BUILDING • COLLEGE PARK, MARYLAND 20742-6015 • VOICE (301) 405-2584 • FAX (301) 314-9889
Accounts Payable 405-2640 • Budget and Fiscal Analysis 405-5627 • Bursar 405-9005
Cost Accounting 405-2605 • Contract and Grant Accounting 405-2607 • General Accounting 405-2599
Property Accounting 405-2627 • System Control 405-2595 • UMCP Payroll Services 405-5665 • UM System Payroll 405-7477

UNIVERSITY OF MARYLAND

OFFICE OF THE COMPTROLLER

13137

February 3, 1998

Contract No.: FCPO AGRDT10/21/92
Contract Period: 01/01/93 to 12/31/97
Univ. of Md No.: 32686-2
Estimated Cost: $23,506.00
Project Director: Dr. Ann G. Wylie
Department: GEOLOGY

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
P. O. BOX. 5150
NORWALK, CT 06856 - 5150
Attn: MS. SUE KELLY

POSTED FEB 99

FEI No.: 52-6002033

Invoice No.: 32686-2

For services rendered on project entitled:

DESC " Mineralogical Characteristics of Fibrous Talc ."

$11,753.00

Please remit the payment to the Office of Contract & Grant Accounting within 30 days, Room 1410 Service Building; College Park, MD 20742. Please return one copy of this invoice with your remittance.

I certify that the above invoice is just and correct and the payment has not been received.

UNIVERSITY OF MARYLAND

89 5034. 1030

RT-DOCS/Compel-03242

Ann M. Holmes, Manager
Contract & Grant Accounting

~~This Check must be returned to~~

1410 SERVICE BUILDING • COLLEGE PARK, MARYLAND 20742-6015 • VOICE (301) 405-2584 • FAX (301) 314-9889
Accounts Payable 405-2640 • Budget and Fiscal Analysis 405-5627 • Bursar 405-9005
Cost Accounting 405-2605 • Contract and Grant Accounting 405-2607 • General Accounting 405-2599
Property Accounting 405-2627 • System Control 405-2595 • UMCP Payroll Services 405-5665 • UM System Payroll 405-7477

5/28/98 052898	2884 ANALYSIS 11 SAMPLES	275.00	.00	275.00

DATE 6/11/98 VENDOR NO. 11214 TOTAL ▶ 275.00

R. T. VANDERBILT COMPANY, Inc.

NO. 200397

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

200397 1

NO. 200397 5144 1-8 210

DATE 6/11/98

PAY ******275.00****** DOLLARS
TO THE ORDER OF

ANN C. WYLIE

******275.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, INC.

AUTHORIZED SIGNATURE MP

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈200397⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03243

Ann G. Wylie

John Kelse
R.T. Vanderbilt Company
30 Winfield Street
Norwalk, Connecticut 06856-5150

11214

#052898

May 28, 1998

INVOICE

Chsc. 2884 Analysis of 11 samples for fiber content at $25/sample $275.00

Ann G. Wylie, PhD

R17124

829 5034.1070

OK J. Kelse

RT-DOCS/Compel-03244

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
6/28/98	062898	3043 ANALYSIS SAMPLES (10	250.00	.00	250.00

DATE 7/16/98 VENDOR NO. 11214 TOTAL ▶ 250.00

R. T. VANDERBILT COMPANY, Inc.

NO. 201127

201127 1

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 201127

5144
1-8
210

DATE 7/16/98

PAY ******250.00***** DOLLARS
TO THE ORDER OF

AMOUNT
******250.00

ANN G. WYLIE

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

MP

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈201127⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03245

Ann G. Wylie

11214

John Kelse
R.T. Vanderbilt Company
30 Winfield Street
Norwalk, Connecticut 06856-5150

#042898
June 28, 1998

INVOICE

Analysis of 10 samples for fiber content at $25/sample $250.00

POSTED

Ann G Wylie

829 5034.1070

ok. John Kelse

desc. 3043 Analysis Samples (10).

6/30/88 3233	R. LEE ANALYSIS PROJECT	2,220.00	.00	2,220.00

DATE 7/29/88 VENDOR NO. 11878 TOTAL ▶ 2,220.00

R. T. VANDERBILT COMPANY, Inc.

NO. 112967

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06855

NO. 112967

1

5144
1-8
210

DATE 7/29/88

PAY **********2,220.00***** DOLLARS

TO THE ORDER OF

*****2,220.00

R.J. LEE GROUP, INC.

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000112967⑈ ⑆021000021⑆ 0535918⑥⑈

RT-DOCS/Compel-03247

RJ LeeGroup

The Materials Characterization Specialists

Invoice Number: 3233

formerly Energy Technology Consultants (ETC)

350 Hochberg Road
Monroeville, PA 15146
(412) 325-1776 Fax (412) 733-1799

Bill to:
RT Vanderbilt Company
30 Winfield Street
Norwalk, CT 06855
ATTN: Accounts Payable

Ship to:
SAME
John W. Kelse

Date	Date Report Sent	Project #	Terms	Client PO#	Vendor#
6/30/88	Completed 5/23	AAH612318	NET 30	J.W. Kelse	-

Item	Description	Unit Price	Amount
4 hrs.	RJ Lee write SAED paper and review	$125.00	$500.00
20 hrs.	Xu Li measure and identigy diffraction patterns	$50.00	$1,000.00
12 hrs.	BA Smith finalize and coordinate report	$60.00	$720.00

Please Pay This Amount $2,220.00

Remit To:

RJ Lee Group, Inc. P.O. Box 278, Monroeville, PA 15146
Please return one (1) copy of this invoice with payment to insure proper credit

RT-DOCS/Compel-03248

6/26/90 062690	ANALYTICAL WORK 4/90	3,055.00	.00	3,055.00

DATE 7/20/90 VENDOR NO. 11878 TOTAL ▶ 3,055.00

R. T. VANDERBILT COMPANY, Inc.

NO. 134296

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06855

NO. 134296

1
5144
1-8
210

DATE 7/20/90

PAY **********3,055.00***** DOLLARS

TO THE ORDER OF

*****3,055.00

R.J. LEE GROUP, INC.

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000134296⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03249

RJ LeeGroup

The Materials Characterization Specialists

Invoice Number: 18855

350 Hochberg Road
Monroeville, PA 15146
(412) 325-1776 Fax (412) 733-1799

Bill to: R.T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06855

Ship to:

Date	Date Shipped	FOB	Terms	Client PO#	Vendor
5/31/90	As Required	RDH003165	NET 30	J. Kelse	

Item	Description	Unit Price	Amount
1	Analyses of RT Vanderbilt Samples	$3,055.00	$3,055.00

Please Pay This Amount $3,055.00

Remit To:

RJ Lee Group, Inc. P.O. Box 278, Monroeville, PA 15146

Please return one (1) copy of this invoice with payment to ensure proper credit

6/11/93 46432-1	SERVICES 08/92-04/93	30,000.00	.00	30,000.00

DATE 8/19/93 VENDOR NO. 11878 TOTAL ▶ 30,000.00

R. T. VANDERBILT COMPANY, Inc.

NO. 161393

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

161393 1
NO. 161393 5144 1-8 210

DATE 8/19/93

PAY ***30,000.00***** DOLLARS
TO THE ORDER OF

[redacted] ***30,000.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

R.J. LEE GROUP, INC.
P.O. BOX 278

MONROEVILLE, PA 15146-1516

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000161393⑈ ⑆021000089⑆ 05359186⑈

RJ Lee Group, Inc.

Invoice Number: 46432-1
Page 1 of 1 pages -2

350 Hochberg Road • Monroeville, PA 15146-1516
(412) 325-1776 • Fax (412) 733-1799

11878

Bill to:
R.T. Vanderbilt Company
Attn: Mr. John Kelse
30 Winfield Street
Norwalk, CT 06855-

Code: C00181 **Requestor** Other Projects ATH208342

Invoice Date	Terms	Project Number	project name
6/11/1993	Net 30 days	ATH208337	Talc Identification

Quantity	Unit	Description	Req. by	Unit Price	Line Total
		Consulting and analytical services provided from Aug '92 thru Apr '93. Analytical services included PLM, XRD,TEM & Comprehensive analysis of SAED patterns. Research efforts resulted in a letter report dated Aug 27, 1992 & a comprehensive report titled "Magnesium Silicate Fibers Found in Glidden Paint" dated April 2, 1993			
1.00	each			$55,000.00	$55,000.00

NOTE: [redacted] of the total is due and payable [redacted] days of the date of this invoice; the remaining $25,000.00 will be due by October 1, 1993

Pay #1 POSTED 7/01

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

Total Amount Billed: $55,000.00

829 5034.1070

RT-DOCS/Compel-03252

O.K.
B.Z.F.

INVOICE SUMMARY

Total Number of Pages: 1 ***Total Amount Billed:*** 55,000.00

Remit to: RJ Lee Group, Inc.
P.O. Box 278
Monroeville, PA 15146-1516 Federal Tax I.D. No

6/11/93	46432-2	SERVICES 08/92-04/93 2ND	25,000.00	.00	25,000.00

DATE 9/30/93 VENDOR NO. 11878 TOTAL ▶ 25,000.00

R. T. VANDERBILT COMPANY, Inc.

NO. 162331

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

162331
NO. 162331

1
5144
1-8
210

DATE 9/30/93

PAY ***25,000.00***** DOLLARS
TO THE ORDER OF

***25,000.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

R.J. LEE GROUP, INC.
P.O. BOX 278

MONROEVILLE, PA 15146-1516

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000162331⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03253

RJ Lee Group, Inc.

Invoice Number [redacted] /1
Page 1 of 1 pages

350 Hochberg Road • Monroeville, PA 15146-1516 (412) 325-1776 • Fax (412) 733-1799

11878

Bill to:
R.T. Vanderbilt Company
Attn: Mr. John Kelse
30 Winfield Street
Norwalk, CT 06855-

Code: C00181 **Requestor** **Other Projects** ATH208342

Invoice Date	Terms	Project Number	project name
6/11/1993	Net 30 days	ATH208337	Talc Identification

Quantity	Unit	Description	Req. by	Unit Price	Line Total
		Consulting and analytical services provided from Aug '92 thru Apr '93. Analytical services included PLM, XRD,TEM & Comprehensive analysis of SAED patterns. Research efforts resulted in a letter report dated Aug 27, 1992 & a comprehensive report titled "Magnesium Silicate Fibers Found in Glidden Paint" dated April 2, 1993			
1.00	each			$55,000.00	$55,000.00

NOTE: $30,000.00 of the total is due and payable within 30 days of the date of this invoice; the remaining [redacted] will be due by [redacted]

pay #2

POSTED Dtd #1

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

Total Amount Billed: **55,000.00**

829 5134.1070

POSTED Dtd #2

desc: Services 08/92 - 04/93 2nd payment

O.K.
S.Z.F.

INVOICE SUMMARY

Total Number of Pages: 1 ***Total Amount Billed:*** 55,000.00

Remit to:
RJ Lee Group, Inc.
P.O. Box 278
Monroeville, PA 15146-1516 Federal Tax I.D. No.

6/25/93 46533	SERVICES 04/21-23/93	7,187.85	.00	7,187.85

DATE 9/09/93 VENDOR NO. 11878 TOTAL ▶ 7,187.85

R. T. VANDERBILT COMPANY, Inc.

NO. 161865

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

161865 1

NO. 161865 5144 1-8 210

DATE 9/09/93

PAY ****7,187.85***** DOLLARS
TO THE ORDER OF

****7,187.85

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

R.J. LEE GROUP, INC.
P.O. BOX 278

MONROEVILLE, PA 15146-1516

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000161865⑈ ⑆021000089⑆ 05359186⑈

RJ Lee Group, Inc.

Invoice Number [redacted]
Page 1 of 1 pages

350 Hochberg Road • Monroeville, PA 15146-1516 (412) 325-1776 • Fax (412) 733-1799

11878

Bill to:
R.T. Vanderbilt Company
Attn: Mr. John Kelse
30 Winfield Street
Norwalk, CT 06855-

Code: C00181

Requestor

Other Projects
ATH208342

Invoice Date	Terms	Project Number	project name
[redacted]	Net ~~30~~ 60 days	ATH208337	Talc Identification

Quantity	Unit	Description	Req. by	Unit Price	Line Total
		Preparation for meeting, travel, meet with Anne Wylie and Slim Thompson and attend RTI meeting in NC			
31.00	hour			$175.00	$5,425.00
		Travel expense for Tom Dagenhart to attend RTI meeting in North Carolina 4/21-23/93			
1.00	each			$362.85	$362.85
		Teleconferences with Slim Thompson and preparation of response to RTI meeting minutes			
8.00	hour			$175.00	$1,400.00

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

Total Amount Billed: [redacted]

ARSC: Services 4/21-23/93

829 5034.1070

J.2.F.

POSTED 7592

INVOICE SUMMARY

Total Number of Pages: 1 ***Total Amount Billed:*** 7,187.85

Remit to:
RJ Lee Group, Inc.
P.O. Box 278
Monroeville, PA 15146-1516
Federal Tax I.D. No.

7/23/93 DC5679	CHEMICAL CHARACTERIZATION	600.00	.00	600.00

DATE 9/02/93 VENDOR NO. 11878 TOTAL ▶ 600.00

R. T. VANDERBILT COMPANY, Inc.

NO. 161766

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

161766 1
NO. 161766 5144 1-8 210

DATE 9/02/93

PAY ******600.00****** DOLLARS
TO THE ORDER OF

[redacted] ******600.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. J. LEE GROUP, INC.
P.O. BOX 278

MONROEVILLE, PA 15146-1516

R. T. VANDERBILT COMPANY, Inc.

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000161766⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03257

11878

RJ Lee Group

The Materials Characterization Specialists

Invoice Number: [redacted]

350 Hochberg Road
Monroeville, PA 15146
(412) 325-1776 Fax (412) 733-1799

10366 Battleview Parkway
Manassas, VA 22110
(703) 368-7880 Fax (703) 368-7761

Bill to:
R. T. VANDERBILT COMPANY, INC.
P. O. BOX 5150
NORWALK, CONNECTICUT 06856-5150

ATTN: DR. C. S. THOMPSON
TELEPHONE: 203-853-1400

Ship to:
R. T. VANDERBILT COMPANY, INC.
P. O. BOX 5150
NORWALK, CONNECTICUT 06856-5150

ATTN: DR. C. S. THOMPSON
TELEPHONE: 203-853-1400

Date	Date Report Sent	Project #	Terms	Client PO#	Vendor #
[redacted]	JULY 23, 1993	ATW307062	NET 30 DAYS	DR. THOMPSON	

Item	Description	Unit Price	Amount
2	CHEMICAL CHARACTERIZATION & PARTICLE DESCRIPTION OF BULK SAMPLES BY TEM REGULAR SERVICE	$300.00	$600.00

829 5034.1070

PAID

DESC: Chemical Characterization & Particle Desc - Samples

SAMPLE ID NUMBERS:
INTERNATIONAL TALC "A"
INTERNATIONAL TALC "B"

RT-DOCS/Compel-03258

Please Pay This Amount [redacted]

O.K. B.Z.F.

Remit To:

RJ Lee Group, Inc. P.O. Box 641297, Pittsburgh, PA 15264-1297
Please return one (1) copy of this invoice with payment to ensure proper credit.

12/12/94 064835	5957 SAMPLES	1,050.00	.00	1,050.00

DATE 1/05/95 VENDOR NO. 11878 TOTAL ▶ 1,050.00

R. T. VANDERBILT COMPANY, Inc.

NO. 173164

[redacted]

173164 1

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 173164

5144
1-8
210

DATE 1/05/95

PAY ****1,050.00***** DOLLARS
TO THE ORDER OF

[redacted] ****1,050.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

R.J. LEE GROUP, INC.
P.O. BOX 278

MONROEVILLE, PA 15146-1516

Authorized Signature

NON-NEGOTIABLE

Authorized Signature

⑈0000173164⑈ ⑆021000089⑆ 05359186⑈

RJ Lee Group, Inc.

The Materials Characterization Specialists
350 Hochberg Rd, Monroeville PA 15146

11878

Invoice Number: 064835
Page: 1 of 1

Billing Address:
Accounts Payable
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P. O. Box 5150
Norwalk, CT 06856-5150
(203)853-1400

Reporting Address:
John W. Kelse
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856-5150
(203)853-1400

Billing Date	Due Date	Job Number	Client PO Number	Client Number
12/12/94	1/11/95	SIH411316	5957	C00181

Quantity	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	0140695	N-100HR	XRD	$150.00	$150.00
1	0140696	N-200	XRD	$150.00	$150.00
1	0140697	N-300	XRD	$150.00	$150.00
1	0140698	N-400	XRD	$150.00	$150.00
1	0140699	HDT	XRD	$150.00	$150.00
1	0140700	IT-3X	XRD	$150.00	$150.00
1	0140701	CER. #1	XRD	$150.00	$150.00

dls

Remit to RJ Lee Group, Inc.
P. O. Box 641297
Monroeville, PA 15264-1297
(412) 325 1776

Please pay this amount: **$1,050.00**

RJ Lee Group Laboratories
Monroeville, PA • Berkeley, CA • Houston, TX • Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit

RT-DOCS/Compel-03260

[redacted]	10421 J. KELSE	1.987.20	.00	1.987.20

2/25/98	109267	2481	SAMPLE ANALYSIS	700.00	.00	700.00
4/29/98	111391	2764	SAMPLE ANALYSIS	600.00	.00	600.

DATE 5/28/98 VENDOR NO. 11878 TOTAL ▶ 1,300.00

R. T. VANDERBILT COMPANY, Inc.

NO. 200036

R.T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

200036 1

NO. 200036 5144 1-8 210

DATE 5/28/98

PAY ***1,300.00***** DOLLARS
TO THE ORDER OF

***1,300.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

GOLDER GROUPS INC.
P.O. BOX 400265
PITTSBURGH, PA 15268-0300

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈200036⑈ ⑆021000089⑆ 05359188⑈

RT-DOCS/Compel-03262

RJ Lee Group, Inc.

The Materials Characterization Specialists
Headquarters, Monroeville PA 15146

Invoice Number: 109267
Page: 1 of 1

Billing Address:

Accounts Payable
R. T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06856-5150

11898

(203) 853-1400

Reporting Address:

Mr. John W. Kelse
R. T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06856-5150

(203) 853-1400

Billing Date	Due Date	Job Number	Client PO Number	Client Number
2/25/98	3/27/98	ATH801015	JWK	CO0181

2481

Quantity	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	0088805HTP1	319/235B3501	PLM/TEM/BULK	$350.00	$350.00
1	0088806HTP1	319/233F1642	PLM/TEM/BULK	$350.00	$350.00

POSTED 17038

829 5034. 1070

Our Area Code has changed from 412 to 724.

Please update your records to reflect this change.

Remit to: **RJ Lee Group, Inc.**
P. O. Box 400265
Pittsburgh, PA 15268-0300
(412) 325 1776

Please pay this amount: **$700.00**

RJ Lee Group Laboratories
Monroeville, PA • Bay Area, CA • Houston, TX • Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit

RT-DOCS/Compel-03263

RJ Lee Group, Inc.

The Materials Characterization Specialists
350 Hochberg Rd; Monroeville PA 15146

Invoice Number: 111391
Page: 1 of 1

Billing Address:

Accounts Payable
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P. O. Box 5150
Norwalk, CT 06856-5150

11878

(203)853-1400

Reporting Address:

John W. Kelse
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856-5150

(203)853-1400

Billing Date	Due Date	Job Number	Client PO Number	Client Number
4/29/98	5/29/98	XRH803043	#875	C00181
			2764	

Quantity	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	0216936	NYTAL/300	XRD Silica	$300.00	$300.00
1	0216937	NATAL/3300	XRD Silica	$300.00	$300.00

POSTED
17038

829 5034.1070

Remit to: RJ Lee Group, Inc.
P. O. Box 400265
Pittsburgh, PA 15268-0300
(724) 325 1776

Please pay this amount: **$600.00**

RJ Lee Group Laboratories
Monroeville, PA • Bay Area, CA • Houston, TX • Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit

RT-DOCS/Compel-03264

EPPLEY COURT REPORTING, LLC

Registered Professional Reporters

P.O. Box 382 • Hopedale, MA 01747
(508) 478-9795 • (508) 478-0595 Fax
Email: leppley@msn.com

INVOICE

BILL TO:	CASE NAME:
Hawkins & Parnell, LLP c/o Albert H. Parnell, Esq. 4000 Sun Trust Plaza 303 Peachtree Street, N.E. Atlanta, Georgia 30308-3243	

INVOICE DATE	INVOICE NO	REPORTER	FEDERAL ID #	TERMS	DUE DATE
2/9/2007	21762	Cheryll Kerr		Net 30	3/11/2007

DATE	DEPOSITION OF	ITEM	PAGES	RATE	AMOUNT
1/25/2007	Arthur Langer, Ph.D.	Copy/Expert	247	2.50	617.50
		Exhibits CD		45.00	45.00
		Postage/Handling		12.95	12.95

Thank You For Using Eppley Court Reporting

We Appreciate Your Business!

TOTAL $675.45

RT-DOCS/Compel-03265

ARTHUR M. LANGER

February 23, 2007

Mr. Peter R. York, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street NE
Atlanta, Georgia 30308-3243

Re: Bridgeport - RTV Talc Cases
Services to February 23, 2007

Dear Mr. York:

Please accept this statement as a bill for services rendered in the above-cited matter:

Read and correct deposition testimony given in the above matter on January 25, 2007, review materials in preparation for 2nd deposition on February 22, 2007, discussion of issues with counsel prior to deposition.

9.75 hours billed at $400 per hour. $3,900.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

RT-DOCS/Compel-03266

7/22/98 115265	3261 SAMPLE ANALYSIS	2,100.00	.00	2,100.00

DATE 10/01/98 VENDOR NO. 11878 TOTAL ▶ 2,100.00

R. T. VANDERBILT COMPANY, Inc.

NO. 202751

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 202751 5144 1-8 210

DATE 10/01/98

PAY TO THE ORDER OF ****2,100.00***** DOLLARS

[redacted] **2,100.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, INC.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈202751⑈ ⑆021000089⑆ 05359186⑈

[redacted]

RT-DOCS/Compel-03300

RJ Lee *Group*, Inc.

The Materials Characterization Specialists
Headquarters, Monroeville PA 15146

Invoice Number: [illegible]
Page: 1 of 1

Billing Address:
Accounts Payable
R.T. Vanderbilt Company
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856
(203) 853-1400

11878

Reporting Address:
Mr. John W. Kelse
R.T. Vanderbilt Company
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856
(203) 853-1400

Billing Date	Due Date	Job Number	Client PO Number	Client Number
~~7/22/98~~	8/21/98	AOH803000	~~John W. Kelse~~	C00181

3261

Quantity	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	597049	NYTAL 100	PLM/Standard/120+	$300.00	$300.00
1	597050	NYTAL 200	PLM/Standard/120+	$300.00	$300.00
1	597051	NYTAL 300	PLM/Standard/120+	$300.00	$300.00
1	597052	NYTAL 400	PLM/Standard/120+	$300.00	$300.00
1	597053	IT 3X	PLM/Standard/120+	$300.00	$300.00
1	597054	NYTAL 3300	PLM/Standard/120+	$300.00	$300.00
1	597055	NYTAL 7700	PLM/Standard/120+	$300.00	$300.00

POSTED 12.30

829 5034.1070

d: 3261 Sample Analysis

Remit to: RJ Lee Group, Inc.
P. O. Box 400265
Pittsburgh, PA 15268-0300
(724) 325 1776

Please pay this amount: **$2,100.00**

RJ Lee Group Laboratories
Monroeville, PA • Bay Area, CA • Houston, TX • Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit

RT-DOCS/Compel-03301

11/24/99	138238	5596 SAMPLE ANALYSIS	1,200.00	.00	1,200.00

DATE 12/09/99 VENDOR NO. 11878 TOTAL ▶ 1,200.00

R. T. VANDERBILT COMPANY, Inc.

NO. 211907

[redacted]

R.T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK CT 06856

211907 1
NO. 211907 5144
1-8
210

DATE 12/09/99

PAY ***1,200.00***** DOLLARS
TO THE ORDER OF

*****1,200.00

R.J. LEE GROUP, INC.
P.O. BOX 400262
PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, INC.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈211907⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03302

RJ Lee Group, Inc.

Invoice Number: [redacted]
Page: Page 1 of 1

FINAL INVOICE

118878

Billing Address:

Mr. John W. Kelse
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P.O. Box 5150
Norwalk CT 6856-5150

(203) 853-1400

Contact Address:

R. T. Vanderbilt Company, Inc.
Mr. John W. Kelse
30 Winfield Street
P.O. Box 5150
Norwalk CT 6856-5150

(203) 853-1400

Billing Date	Due Date	RJ Lee Project	Client Batch Id:	Client PO Number	Client Number
11/24/99	12/24/99	XRH910142	N/A	N/A	C00181

Qty.	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	0254493	ND-140	XRD	$200.00	$200.00
1	0254494	ND-132	XRD	$200.00	$200.00
1	0254495	SH-100	XRD	$200.00	$200.00
1	0254496	SH-105	XRD	$200.00	$200.00
1	0254497	G-50	XRD	$200.00	$200.00
1	0254498	G-60	XRD	$200.00	$200.00

POSTED 12-9-99

Please pay this amount: $1,200.00

89 5034.1070

d: 5596 sample analysis

Remit to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300
(724) 325-1776

RJ Lee Group Laboratories

Monroeville, PA San Leandro, CA Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit
We now accept MasterCard And Visa

RT-DOCS/Compel-03303

INVOICE DATE	INVOICE NUMBER		DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
7/10/00	150277	o770	NYTAL ANALYSIS	1,005.00	.00	1,005.00

DATE 8/10/00 VENDOR NO. 11878 TOTAL ▶ 1,005.00

R. T. VANDERBILT COMPANY, Inc.

NO. 217015

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

217015

NO. 217015

5144
1-8
210

DATE 8/10/00

PAY
TO THE ORDER OF

****1,005.00*****

DOLLARS

AMOUNT
****1,005.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

R. T. VANDERBILT COMPANY, Inc.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈217015⑈ ⑆021000089⑆ 05359186⑈

RJ Lee Group, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

POSTED 2010

Invoice No. 150277
July 10, 2000

Bill to:	C00181	*Requested by:*	Other Projects
R.T. Vanderbilt Company, Inc. Attn: Mr. John Kelse 30 Winfield Street P.O. Box 5150 Norwalk, CT 06856-5150	118878	Mr. John Kelse Project Number: LSH006444 Project Name: R.T. Vanderbilt	

Quantity	Unit	Description	Unit Price	Line Total
		Sample Log-in		
7.00	each		$15.00	$105.00
		Project coordination; photographic documentation; method preparation		
4.50	hour		$175.00	$787.50
1.50	hour		$75.00	$112.50
		Total Amount Billed:		1,005.00

829 5034.1070

d:6770 Metal Analysis

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No.

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

RT-DOCS/Compel-03305

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
9/29/00	153510	7165 TALC ANALYSIS	16,577.50	.00	16,577.50

DATE 10/26/00 VENDOR NO. 11878 TOTAL ▶ 16,577.50

R. T. VANDERBILT COMPANY, Inc.

NO. 218535

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

218535 1

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 218535

5144
1-8
210

DATE 10/26/00

PAY ***16,577.50***** DOLLARS
TO THE ORDER OF

AMOUNT
***16,577.50

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK
R. T. VANDERBILT COMPANY, Inc.
NON-NEGOTIABLE

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

⑈218535⑈ ⑆021000089⑆ 05359186⑈

THIS DOCUMENT FEATURES A HIDDEN VOID

RJ Lee *Group*, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

11878

Invoice No.153510
September 29, 2000

Bill to:	C00181	***Requested by:***	Other Projects
R.T. Vanderbilt Company, Inc. Attn: Mr. John Kelse 30 Winfield Street P.O. Box 5150 Norwalk, CT 06856-5150		Mr. John Kelse	

Project Number: LSH006444
Project Name: R.T. Vanderbilt

Quantity	Unit	Description	Unit Price	Line Total
		Sample Log-in		
3.00	each		$15.00	$45.00
		Sample Preparation & CCSEM		
3.00	each		$350.00	$1,050.00
		Project coordination; teleconference & meetings with client; research & review; protocal development; sample analysis		
1.50	hour		$350.00	$525.00
82.50	hour		$175.00	$14,437.50
8.00	hour		$65.00	$520.00
		Total Amount Billed:		16,577.50

POSTED 21373

d: 7165

ACTeo
10/26/00

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No.

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
12/21/00	159125	7559 SAMPLIN-PROJECT LSHO	43,955.50	.00	43,955.50

TOTAL ▶ 43,955.50

DATE 1/18/01 VENDOR NO. 11878

R. T. VANDERBILT COMPANY, Inc.

NO. 220207

220207 1

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 220207

5144
1-8
210

DATE 1/18/01

PAY
TO THE ORDER OF

43,955.50**

DOLLARS

AMOUNT
***43,955.50

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

NON-NEGOTIABLE

R.J. LEE GROUP, INC.
P.O. BOX 400255

PITTSBURGH, PA 15268-0300

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

⑈220207⑈ ⑆021000089⑆ 05359186⑈

THIS DOCUMENT FEATURES A MICROPRINTED BORDER

RJ Lee *Group*, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

Invoice No. 159125

December 21, 2000

Bill to: C00181

R.T. Vanderbilt Company, Inc.
Attn: Mr. John Kelse
30 Winfield Street
P.O. Box 5150
Norwalk CT 06856-5150

11878

Requested by:
Mr. John Kelse

P.O. Number

Project Number: LSH006444
Project Name: R.T. Vanderbilt

Quantity	Unit	Description	Unit Price	Line Total
11.00	sample	Sample Log-in	$15.00	$165.00
1.00	each	Weigh/sieve/separate/weigh	$75.00	$75.00
1.00	each	Scanning electron microscopy (SEM)	$350.00	$350.00
7.00	each	Talc/transitional fibers/cleavage	$700.00	$4,900.00
7.00	each	Transmission Electron Microscopy (NIOSH 7402)	$350.00	$2,450.00
		Project coordination; teleconferences with client; data review, compilation and interpretation; data verification; PLM point count analyses		
23.50	hour		$350.00	$8,225.00
153.00	hour		$175.00	$26,775.00
10.00	hour		$100.00	$1,000.00
1.00	each	Courier charge		$15.50
		Total Amount Billed:		43,955.50

POSTED 21763

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No.

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

RT-DOCS/Compel-03309

INVOICE DATE	INVOICE NUMBER		DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
4/23/01	163720	8185	PROJECT # LSH006444	13,586.25	.00	13,586.25

DATE 5/17/01 VENDOR NO. 11878 TOTAL ▶ 13,586.25

R. T. VANDERBILT COMPANY, Inc.

NO. 222646

222646 1

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 222646

5144
1-6
210

DATE 5/17/01

PAY ***13,586.25***** DOLLARS
TO THE ORDER OF

AMOUNT
***13,586.25

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

⑈222646⑈ ⑆021000089⑆ 05359186⑈

THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK ON THE BACK - HOLD TO LIGHT TO VIEW

RJ Lee *Group*, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

11878

Invoice No. 163720
April 23, 2001

Bill to:	C00181	***Requested by:***	P.O. Number
R.T. Vanderbilt Company, Inc. Attn: Mr. John Kelse 30 Winfield Street P.O. Box 5150 Norwalk CT 06856-5150		Mr. John Kelse Project Number: LSH006444 Project Name: R.T. Vanderbilt	POSTED 22402

Quantity	Unit	Description	Unit Price	Line Total
		Review of RTI report and preparation of comments and response; research; literature review; method evaluation & development; data verification; general consulting; attend EIA meeting in Albuquerque		
13.50	hour		$350.00	$4,725.00
51.50	hour		$175.00	$9,012.50
87.50	hour		$150.00	$13,125.00
8.50	hour		$135.00	$1,147.50
150.50	hour		$100.00	$15,050.00
27.00	hour		$75.00	$2,025.00
92.50	hour		$65.00	$6,012.50
13.75	hour		$50.00	$687.50
5.00	each	Travel expense		$2,399.65
3.00	each	Courier charge 829 5034 1070		$121.60
			Subtotal:	$54,306.25
			Less adjustment:	($40,720.00)
			Total:	$13,586.25

d: 8185 project #LSH006444

Adjustment applies to RJ Lee cost share and EIA meeting attendance time (travel & participation of Drew Van Orden) and meeting registration fee

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. N

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

INVOICE DATE	INVOICE NUMBER		DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
8/17/01	168075	8609	SAMPLE ANALYSIS	1,222.50	.00	1,222.50

DATE 9/06/01 VENDOR NO. 11878 TOTAL ▶ 1,222.50

R. T. VANDERBILT COMPANY, Inc. NO. 224740

224740 1

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 224740

5144
1-8
210

DATE 9/06/01

PAY
TO THE ORDER OF

****1,222.50***** DOLLARS

AMOUNT
****1,222.50

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

THIS DOCUMENT FEATURES A HIDDEN VOID

⑈224740⑈ ⑆021000089⑆ 05359186⑈

RJ Lee *Group*, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

FILED 23021

Invoice No. 168075

August 17, 2001

Bill to:	***Requested by:***	P.O. Number
R.T. Vanderbilt Company, Inc. Attn: Mr. John Kelse 30 Winfield Street P.O. Box 5150 Norwalk CT 06856-5150	Mr. John Kelse	

C00181
11878

Project Number: LSH105622
Project Name: Evaluation of Calcined fiber samples

Quantity	Unit	Description	Unit Price	Line Total
2.00	each	Sample Log-in	$15.00	$30.00
		Sample preparation; analysis by PLM & SEM; data review & interpretation		
2.00	hour		$175.00	$350.00
3.00	hour		$100.00	$300.00
1.00	hour		$75.00	$75.00
3.00	hour		$65.00	$195.00
5.00	hour		$50.00	$250.00
1.00	each	Courier charge		$22.50
			Total Amount Billed:	**$1,222.50**

d: 8609 Sample Analysis

829 5034-1070

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No. [redacted]

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
9/20/01	170309	8721 SAMPLE ANALYSIS	3,225.00	.00	3,225.00

DATE 10/11/01 VENDOR NO. 11878

R. T. VANDERBILT COMPANY, Inc.

TOTAL ▶ 3,225.00

NO. 225332

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

225332 1

NO. 225332

5144
1-8
210

DATE 10/11/01

PAY
TO THE ORDER OF ****3,225.00***** DOLLARS

AMOUNT
****3,225.00

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

⑈225332⑈ ⑆021000089⑆ 053591866⑈

THIS DOCUMENT HAS ARTIFICIAL WATERMARKS AND MICROPRINTING TO PREVENT COPYING

RT-DOCS/Compel-03314

RJ Lee *Group*, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

Invoice No. 170309

September 20, 2001

Bill to: C00181

R.T. Vanderbilt Company, Inc.
Attn: Mr. John Kelse
30 Winfield Street
P.O. Box 5150.
Norwalk CT 06856-5150

11878

Requested by:
Mr. John Kelse

P.O. Number

Project Number: LSH006444
Project Name: R.T. Vanderbilt

Quantity	Unit	Description	Unit Price	Line Total
		Review of RJ Lee report and deposition of comments pertaining to critical review of information		
3.00	hour		$350.00	$1,050.00
3.00	hour		$350.00	$1,050.00
5.00	hour		$225.00	$1,125.00
1.00		Sample analysis and document log-in services POSTED 23237		$725.00
1.00		Sample analysis and document log-in services		($725.00)
			Total Amount Billed:	**$3,225.00**

Sample analysis and document log-in services rendered but not invoiced

829 5034.1070

d:8721 Sample Analysis

Please remit payment to:

RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No.

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
3/19/03	194105	2270 IT-3X 01/03	1,425.00	.00	1,425.00

DATE 4/17/03 VENDOR NO. 11878 TOTAL ▶ 1,425.00

R. T. VANDERBILT COMPANY, Inc.

NO. 234825

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

234825 1
NO. 234825 5144
1-6
210

DATE 4/17/03

PAY
TO THE ORDER OF

****1,425.00***** DOLLARS

AMOUNT
****1,425.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈234825⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03316

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
4/02/03	195152	2328 PROJECT IT 3X	2,812.50	.00	2,812.50
4/02/03	195153	2327 PROJECT-LAB HOOD	1,800.00	.00	1,800.00

DATE 5/01/03 VENDOR NO. 11878 TOTAL ▶ 4,612.50

R. T. VANDERBILT COMPANY, Inc.

NO. 234993

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

234993 NO. 234993 1 5144 1-8 210

DATE 5/01/03

PAY
TO THE ORDER OF

****4,612.50***** DOLLARS

AMOUNT
*****4,612.50

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈234993⑈ ⑆021000089⑆ 05399186⑈

RT-DOCS/Compel-03317

RJ Lee *Group*, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

Invoice No. 195152

April 2, 2003

Bill to:	C00181	***Requested by:***	P.O. Number
R.T. Vanderbilt Company, Inc. Attn: Mr. John Kelse 30 Winfield Street P.O. Box 5150 Norwalk CT 06856-5150	11878	Mr. John Kelse Project Number: LSH212880 Project Name: Vanderbilt IT-3X	POSTED 26819

Quantity	Unit	Description	Unit Price	Line Total
		Project coordination; teleconferences with client; data review; report preparation		
12.50	hour		$225.00	$2,812.50
		Total Amount Billed:		$2,812.50

OK to pay
J. Kelse

D: 2328

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

RJ Lee Group, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

POSTED 26189

Invoice No. 195153

April 2, 2003

Bill to:	C00181	*Requested by:*	P.O. Number
R.T. Vanderbilt Company, Inc. Attn: Mr. John Kelse 30 Winfield Street P.O. Box 5150 Norwalk CT 06856-5150	11878	Mr. John Kelse Case/Claim No: MV 03423	MV 03423

Project Number: LBH201727

Project Name: Vanderbilt (lab hood panel board)

Quantity	Unit	Description	Unit Price	Line Total
		Project coordination; teleconferences with client; report preparation		
8.00	hour		$225.00	$1,800.00
		Total Amount Billed:		$1,800.00

d: 2327

ok to pay
JKelse

Please remit payment to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No. 25-1375815

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice..

RT-DOCS/Compel-03319

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
5/17/04	212425	3701 TALC ANALYSIS	450.00	.00	450.00

DATE 6/17/04 VENDOR NO. 11878 TOTAL ▶ 450.00

R. T. VANDERBILT COMPANY, Inc.

NO. 242450

WACHOVIA
Wachovia Bank, N.A.
800 Main Street
Stamford, CT 06904

R. T. VANDERBILT COMPANY, Inc.
30 WINFIELD STREET
NORWALK, CT 06855

242450 1

NO. 242450 31-110 211

DATE 6/17/04

PAY
TO THE ORDER OF

******450.00*****

DOLLARS

AMOUNT
******450.00

R.J. LEE GROUP, INC.
P.O. BOX 400265

PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

⑈242450⑈ ⑆021101108⑆ 20000131264578⑈

RJ Lee Group, Inc.
350 Hochberg Road • Monroeville, PA 15146-1516
(724) 325-1776 • Fax (724) 733-1799

Invoice No. 212425

May 17, 2004

Bill to:
R.T. Vanderbilt Company, Inc.
Attn: Mr. John Kelse
30 Winfield Street
P.O. Box 5150
Norwalk CT 06856-5150

C00181

Requested by:
Mr. John Kelse

P.O. Number

Project Number: LSH212880
Project Name: Vanderbilt General (including IT-3X)

Quantity	Unit	Description	Unit Price	Line Total
5.00	each	Silica weight percent	$75.00	$375.00
5.00	each	Sample Log-in	$15.00	$75.00
		Total Amount Billed:		**$450.00**

POSTED 4/8/04

OK to pay
John Kelse

Please remit payment to:
RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No. [illegible]

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

RT-DOCS/Compel-03321

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
3/22/04	210115	3574 SAMPLE ANAYLSIS	380.00	.00	380.00

DATE 4/15/04 VENDOR NO. 11878 TOTAL ▶ 380.00

R. T. VANDERBILT COMPANY, Inc. NO. 241411

WACHOVIA
Wachovia Bank, N.A.
300 Main Street
Stamford, CT 06904

R. T. VANDERBILT COMPANY, Inc.
30 WINFIELD STREET
NORWALK, CT 06855

241411

NO. 241411

51-120
211

DATE 4/15/04

PAY ******380.00****** DOLLARS

AMOUNT
******380.00

TO THE ORDER OF

R.J. LEE GROUP, INC.
P.O. BOX 400265
PITTSBURGH, PA 15268-0300

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AUTHORIZED SIGNATURE

VOID VOID VOID VOID

⑈241411⑈ ⑆021101108⑆ 2000013126458⑈

RT-DOCS/Compel-03322

RJ Lee Group, Inc.

350 Hochberg Road • Monroeville, PA 15146-1516 (724) 325-1776 • Fax (724) 733-1799

11878

Invoice No. 210115
March 22, 2004

Bill to:
R.T. Vanderbilt Company, Inc.
Attn: Mr. John Kelse
30 Winfield Street
P.O. Box 5150
Norwalk CT 06856-5150

C00181

RECEIVED
MAR 27 2004

Requested by:
Mr. John Kelse

P.O. Number
3574

Project Number: LSH212880
Project Name: Vanderbilt General (including IT-3X)

Quantity	Unit	Description	Unit Price	Line Total
2.00	each	Sample Log-in	$15.00	$30.00
2.00	each	X-ray diffraction	$175.00	$350.00
		Total Amount Billed:		$380.00

829 5034.1070

OK to Pay
RP Price
4-12-04

d: 3574 Sample analysis

Please remit payment to:
RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300

Terms: Net 30 days
Federal Tax I.D. No.

To ensure proper credit, please reference our invoice number on your check or include a copy of this invoice. If payment is to be made by more than one source or by a source other than the company to which this invoice is addressed, please ensure that each payor includes our invoice number or a copy of this invoice.

OK to pay
John Kelse

RT-DOCS/Compel-03323

Dr. Arthur Langer	3,250	3.250

1989

	1989	1988	Increase (Decrease)
Dr. Arthur Langer	52,500	0	52,500

R.T. VANDERBILT COMPANY, INC.

OTHER CATEGORY

DECEMBER, 1993 VS. DECEMBER, 1992

Twelve Months Ended December 31

	1993	1992	$ Var	% Var
UT. Arthur Langer	10,000.00	0.00	10,000.00	0

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
4/28/98	032598	ANALYSIS (4) TALC SAMPLES	1,400.00	.00	1,400.00
				TOTAL ▶	1,400.00

DATE 5/07/98 VENDOR NO. 11079

R. T. VANDERBILT COMPANY, Inc.

NO. 199597

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

199597 1

NO. 199597

5144
1-8
210

DATE 5/07/98

PAY
TO THE ORDER OF

****1,400.00*****

DOLLARS

AMOUNT
****1,400.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

ENVIRONMENTAL SCIENCES
LABORATORY

R. T. VANDERBILT COMPANY, Inc.

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

THIS DOCUMENT FEATURES A HIDDEN VOID

⑈199597⑈ ⑆021000089⑆ 053591486⑈

RT-DOCS/Compel-04683

ARTHUR M. LANGER

October 25, 2006

Mr. Albert Parnell, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia

Re:
Services to October 24, 2006

Dear Mr. Parnell:

Please accept this statement as a bill for services rendered in the above-cited matter:

24.25 hours billed at $400 per hour. $9,700.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

ARTHUR M. LANGER

January 28, 2007

Mr. Peter York, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street
Atlanta, Georgia 30308

Re: RTV Bridgeport Talc Cases

Services to January 28, 2007

Dear Mr. York:

Please accept this statement as a bill for services rendered in the above-cited matter:

27.5 hours billed at $400 per hour. $11,000.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

ARTHUR M. LANGER

February 23, 2007

Mr. Peter R. York, Esquire
Hawkins & Parnell, L.L.P.
4000 SunTrust Plaza
303 Peachtree Street NE
Atlanta, Georgia 30308-3243

Re: Bridgeport - RTV Talc Cases
Services to February 23, 2007

Dear Mr. York:

Please accept this statement as a bill for services rendered in the above-cited matter:

9.75 hours billed at $400 per hour. $3,900.

Please make check payable to Dr. Arthur M. Langer and mail to the address shown below. Accounts Payables note my social security number is

Sincerely,

Arthur M. Langer, Ph.D.

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
4/28/98	032598	ANALYSIS (4) TALC SAMPLES	1,400.00	.00	1,400.00
				TOTAL ▶	1,400.00

DATE 5/07/98 VENDOR NO. 11079

R. T. VANDERBILT COMPANY, Inc.

NO. 199597

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

199597 1

NO. 199597 5144 1-8 210

DATE 5/07/98

PAY ****1,400.00***** DOLLARS
TO THE ORDER OF

AMOUNT
****1,400.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

ENVIRONMENTAL SCIENCES
LABORATORY

R. T. VANDERBILT COMPANY, Inc.

MP
AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

THIS DOCUMENT FEATURES A HIDDEN VOID

⑈199597⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03227

RJ Lee Group, Inc.

The Materials Characterization Specialists
Headquarters, Monroeville PA 15146

Invoice Number: 115265

Page: 1 of 1

Billing Address:

Accounts Payable
R.T. Vanderbilt Company
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856

(203) 853-1400

Reporting Address:

Mr. John W. Kelse
R.T. Vanderbilt Company
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856

(203) 853-1400

Billing Date	Due Date	Job Number	Client PO Number	Client Number
7/22/98	8/21/98	AOH803000	John W. Kelse	C00181

3261

Quantity	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	597049	NYTAL 100	PLM/Standard/120+	$300.00	$300.00
1	597050	NYTAL 200	PLM/Standard/120+	$300.00	$300.00
1	597051	NYTAL 300	PLM/Standard/120+	$300.00	$300.00
1	597052	NYTAL 400	PLM/Standard/120+	$300.00	$300.00
1	597053	IT 3X	PLM/Standard/120+	$300.00	$300.00
1	597054	NYTAL 3300	PLM/Standard/120+	$300.00	$300.00
1	597055	NYTAL 7700	PLM/Standard/120+	$300.00	$300.00

C.O.D.

Remit to: RJ Lee Group, Inc.
P. O. Box 400265
Pittsburgh, PA 15268-0300
(724) 325 1776

Please pay this amount: **$2,100.00**

RJ Lee Group Laboratories
Monroeville, PA • Bay Area, CA • Houston, TX • Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit

RT-DOCS/Compel-03228

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
1/31/95	MARCH-1994	MARCH SERVICES	383.98	.00	383.98

DATE 2/09/95 VENDOR NO. 12948 TOTAL ▶ 383.98

R. T. VANDERBILT COMPANY, Inc.

NO. 173969

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

173969

NO. 173969

5144
1-8
21

DATE 2/09/95

PAY ******383.98***** DOLLARS
TO THE ORDER OF

**********383.98**********

H.CATHERINE W.SKINNER,PHD

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

G. L. Federlein
Authorized Signatu

A. Merola
Authorized Signatu

"0000173969" :021000089: 05359186"

RT-DOCS/Compel-03222

INVOICE DATE	INVOICE NUMBER	DESCRIPTION	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
3/02/94	FEB-1994	FEBRUARY SERVICES	1,792.49	.00	1,792.49

DATE 3/03/94 VENDOR NO. 12948 TOTAL 1,792.49

R. T. VANDERBILT COMPANY, Inc.

NO. 166004

166004 1

CITIBANK, N.A.
399 Park Avenue
New York, N.Y. 10043

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 166004 5144 1-8/210

DATE 3/03/94

PAY ****1,792.49***** DOLLARS

TO THE ORDER OF

AMOUNT ****1,792.49

H.CATHERINE W.SKINNER,PHD

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. T. VANDERBILT COMPANY, Inc.

Authorized Signature

Authorized Signature

⑈0000166004⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03223

RJ Lee *Group*, Inc.

Invoice Number: 138238
Page: Page 1 of 1

FINAL INVOICE

Billing Address:

Mr. John W. Kelse
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P.O. Box 5150
Norwalk CT 6856-5150

(203) 853-1400

Contact Address:

R. T. Vanderbilt Company, Inc.
Mr. John W. Kelse
30 Winfield Street
P.O. Box 5150
Norwalk CT 6856-5150

(203) 853-1400

Billing Date	Due Date	RJ Lee Project	Client Batch Id:	Client PO Number	Client Number
11/24/99	12/24/99	XRH910142	N/A	N/A	C00181

Qty.	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	0254493	ND-140	XRD	$200.00	$200.00
1	0254494	ND-132	XRD	$200.00	$200.00
1	0254495	SH-100	XRD	$200.00	$200.00
1	0254496	SH-105	XRD	$200.00	$200.00
1	0254497	G-50	XRD	$200.00	$200.00
1	0254498	G-60	XRD	$200.00	$200.00

Please pay this amount: $1,200.00

Remit to: RJ Lee Group, Inc.
P.O. Box 400265
Pittsburgh, PA 15268-0300
(724) 325-1776

RJ Lee Group Laboratories

Monroeville, PA San Leandro, CA Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit
We now accept MasterCard And Visa

RT-DOCS/Compel-03224

Yale University

Department of Geology and Geophysics
Kline Geology Laboratory
P.O. Box 208109
New Haven, Connecticut 06520-8109
U.S.A.

Campus address:
Kline Geology Laboratory
210 Whitney Avenue
Telephone: 203 432-3114
Fax: 203 432-3134

To:John Kelse
Vanderbilt Corp.
30 Winfield St.
Norwlk, CT 06855

From: H. Catherine W. Skinner
Department of Geology and Geophysics
Yale University
Box 208109
New Haven, CT 06520-81909

Re: Bill for Services related to Talc Sample Analysis

Date:May 17, 1995

Billable hours for Howard Snyder

February	20 hours	
March	14.5 hours	
April	7 hours	
TOTAL	41.5 hours @ $12	$498.00
Consultation and supervision H.C.W.Skinner		$600.00
Supplies/Copying/Fax etc.		102.00
	GRAND TOTAL	$1200.00

PLEASE REMIT TO HCWS AT ADDRESS ABOVE, THANK YOU.

O.K.
J. Kelse

RT-DOCS/Compel-03225

8/18/95 073898	7186 SAMPLE ANALYSIS	1,200.00	.00	1,200.00

DATE 10/19/95 VENDOR NO. 11878 TOTAL ▶ 1,200.00

R. T. VANDERBILT COMPANY, Inc.

NO. 179732

179732 1

[redacted]

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CT 06856

NO. 179732

5144
1-8
210

DATE 10/19/95

PAY ****1,200.00**** DOLLARS
TO THE ORDER OF

****1,200.00

VOID AFTER 90 DAYS FROM DATE OF CHECK

R. J. LEE GROUP, INC.
P.O. BOX 278

MONROEVILLE, PA 15146-1516

R. T. VANDERBILT COMPANY, Inc.

NON-NEGOTIABLE

Authorized Signature

Authorized Signature

⑈0000179732⑈ ⑆021000089⑆ 05359186⑈

RT-DOCS/Compel-03345

RJ Lee Group, Inc.

The Materials Characterization Specialists
350 Hochberg Rd, Monroeville PA 15146

Invoice Number: 073898
Page: 1 of 1

Billing Address:

Accounts Payable
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P. O. Box 5150
Norwalk, CT 06856-5150
(203)853-1400

Reporting Address:

John W. Kelse
R. T. Vanderbilt Company, Inc.
30 Winfield Street
P.O. Box 5150
Norwalk, CT 06856-5150
(203)853-1400

Billing Date	Due Date	Job Number	Client PO Number	Client Number
8/18/95	9/17/95	SIH507209		C00181

Quantity	Sample Number	Client Sample Number	Analysis Type	Unit Price	Amount
1	0155166	N-200	XRD	$150.00	$150.00
1	0155167	HOT	XRD	$150.00	$150.00
1	0155168	CER #1	XRD	$150.00	$150.00
1	0155169	N-300	XRD	$150.00	$150.00
1	0155170	N-100 HR	XRD	$150.00	$150.00
1	0155171	IT-3X	XRD	$150.00	$150.00
1	0155172	N-400	XRD	$150.00	$150.00
1	0155173	3XX	XRD	$150.00	$150.00

Remit to: RJ Lee Group, Inc.
P. O. Box 641297
Pittsburgh, PA 15264-1297
(412) 325-1776

Please pay this amount: **$1,200.00**

RJ Lee Group Laboratories
Monroeville, PA • Berkeley, CA • Houston, TX • Washington, D.C.

Please return one (1) copy of this invoice with payment to ensure proper credit

RT-DOCS/Compel-03346