

**LIMITED PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
APPROXIMATE 6.08 ACRE PARCEL
PART OF SCHERER BROS LUMBER PROPERTY
99TH AVENUE NORTHEAST
MINNEAPOLIS, MINNESOTA**

Prepared for:

**SCHERER LIMITED PARTNERSHIP
MINNEAPOLIS, MN
AND
RYAN COMPANIES US, INC.
MINNEAPOLIS, MN
AND
CITY OF MINNEAPOLIS, ACTING BY AND THROUGH
ITS PARK AND RECREATION BOARD
MINNEAPOLIS, MINNESOTA**

October 2009

Prepared by:

Liesch Companies

Minneapolis • Chicago • Los Angeles • Madison • Milwaukee • Phoenix



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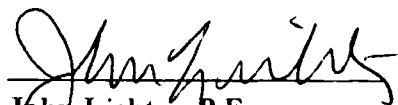
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October 22, 2009

Project Number: 6202670.02

This report was prepared by me
or under my direct supervision.


John Lichter, P.E.
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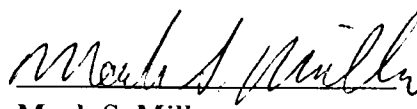

Mark S. Miller
Project Manager

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1.0 INTRODUCTION

1.1 General

Liesch Associates, Inc. (Liesch) was retained by Scherer Limited Partnership to conduct a Limited Phase Two Environmental Site Assessment (ESA) and to prepare this Limited Phase Two ESA Report for an approximate 6.08-acre developed parcel of land with a main address of 9 9th Avenue NE and related addresses of 15 8th Avenue NE and 8 8th Avenue NE, City of Minneapolis (the City), County of Hennepin, State of Minnesota (the Property). The Property is located in part of the southeast 1/4 of the southeast 1/4, Section 15, Township 29 North, Range 24 West. The Property is part of a larger parcel of land commonly referred to as the "Scherer Bros Lumber Company Site". Scherer Limited Partnership is the "Owner" of the Scherer Bros Lumber Company Site. Figure 1 in Appendix A shows the location of the Property. A Survey showing the Property crosshatched and the remainder of the Scherer Bros Lumber Company Site is included as Figure 2 in Appendix A. The purpose of the Limited Phase Two ESA was to obtain preliminary environmental information on the soils at the Property.

Property and Surrounding Properties Description

General Area	Commercial, residential, park and Mississippi River.
Site Improvements	Building used for sale and storage of building supplies and lumber and millworking purposes. Two open sided lumber storage building (one partially on the Property) and paved lumber storage areas. Buildings constructed from 1936 up to 1977.
Adjacent to North	Vacated 9 th Avenue NE and Scherer Bros buildings and storage operations.
Adjacent to East	Sibley St. NE with Scherer Bros parking lot and truck maintenance building with multi-tenant commercial buildings beyond.
Adjacent to South	8 th Ave. NE with Boom Island Park and residential properties to the southeast of the Property across 8 th Avenue N.E.
Adjacent to West	Mississippi River with open area and commercial land use across the river.

The Property has one building which occupies the eastern portion of the Property and was constructed over a period of time beginning in 1936 with the last reported construction being in 1977 (the **Main Building**). In addition to the Main Building, two open sided lumber storage buildings, one located partially on the Property, are located on the north-central portion of the Property (the **Storage Buildings**). The Main Building and Storage Buildings are collectively referred to as the "**Buildings**"). A Site Plan for the Scherer Bros Lumber Co. Site is included as **Figure 3** in **Appendix A**.

Scherer Bros Limited Partnership, the owner of the Property (the **Owner**) plans to sell the Property for commercial redevelopment which would include a multi-story office building. **Figure 4** in **Appendix A** illustrates Ryan companies US, Inc.'s (**Ryan**) Proposed Site Plan.

1.2 Background

Concurrent with conducting the Limited Phase Two ESA, Liesch prepared a Phase One ESA Report for Ryan and Scherer Limited Partnership, dated July 16, 2009 (the **Phase One ESA Report**).

The Phase One ESA Report identified recognized environmental conditions (**RECs**), historical RECs and items of environmental concern on and adjacent to the Property, which are summarized below:

RECs identified for the Property are:

- Preliminary results from the Limited Phase Two ESA identified elevated concentrations of lead, diesel range organics (**DRO**) and the volatile organic compound (**VOC**) naphthalene. Lead was reported at 10,300 milligrams per kilogram (**mg/kg**) in the soil sample from 7-feet to 9-feet below ground surface (**bgs**). The Minnesota Pollution Control Agency (**MPCA**) Tier 1 Soil Leachate Value (**SLV**) and Tier 2 Industrial Soil Reference Value (**SRV**) for lead are 525 mg/kg and 700 mg/kg, respectively. DRO, which does not have a MPCA action level established, was reported at 439 mg/kg. Naphthalene was reported at 0.432 mg/kg and the MPCA Tier 1 SLV and Tier 2 Industrial SRV are 7.5 mg/kg and 28 mg/kg, respectively. The release for these findings was reported to the Minnesota State Duty Officer on July 13, 2009 on behalf of Scherer Limited Partnership.
- The western portion of the Property was formerly a side-channel to the Mississippi River and Hall's Island. The side channel was filled in the late 1960s. The source of the fill is

unknown and no analytical information is known to have been completed for the fill material. Based on the unknown characteristics of the fill material, the fill is considered a REC for the Property.

One historic REC was identified for the Property:

- A leaking underground storage tank (LUST) site (LEAK NO: 1057) is located adjacent to the east of the Property on a portion the Scherer Bros Lumber Company Site. The MPCA issued closure of this LUST site on April 17, 1992. Closed LUST sites do not require additional investigation or remediation.

With respect to the potential for sub-surface environmental impacts, the following items of environmental note were identified for the Property.

- The Scherer Brothers Lumber LUST site is located up-gradient of the Property. Review of the MPCA LUST file for the Scherer Brothers Lumber LUST site identified residual petroleum impacts to soil and ground water were present. Due to the Scherer Brothers Lumber LUST site being adjacent to the Property, and the reported residual petroleum contamination reported for the soil and ground water, the Scherer Brothers Lumber LUST site is considered a potential vapor intrusion condition (pVIC) for the Property.
- A UST was formerly located adjacent to the northern boundary of the Property. The UST was used to fuel delivery trucks for the Scherer Bros Lumber Company. The UST was removed in the late 1970s or early 1980s. No record of leaks were reported for the UST, however, no analytical information was collected to determine if there were any impacts to the soils and/or ground water.
- Historical information identified a shingle mill and cedar post sawing mill on the southwest corner of the Property. A tank (no size or contents listed) and a chimney were noted in association with the mill.
- Information reviewed from the City Directories identified a variety of commercial/industrial land use in the area of the Property. Based on the review of the City Directories, it was not readily ascertainable if these commercial/industrial activities may have resulted in impacts to soil and/or groundwater.

1.3 Scope

Liesch submitted a proposal to Scherer Limited Partnership c/o Ryan dated June 22, 2009 (the **Phase Two ESA Proposal**) which provided a scope of work for the Limited Phase Two ESA. Due to the Phase One ESA being prepared concurrently with the Limited Phase Two ESA, and the limited operational and historical information for the Property reviewed at the time of the Phase Two ESA Proposal being submitted and accepted by Scherer Limited Partnership, the majority of the soil boring locations were based on geotechnical requirements for the proposed redevelopment. **Figure 4 in Appendix A** is a Proposed Site Plan overlaid onto the Survey of the Scherer Bros Lumber Company Site).

The scope-of-work for the Limited Phase Two ESA, as provided in the Liesch Phase Two ESA Proposal, is summarized below:

1. Obtain evidence of the MPCA being provided with the MPCA Petroleum Remediation Section Notification for the Limited Phase Two work. required since the Property is a closed LUST site.
2. Provide environmental oversight for twelve (12) soil borings to be completed by American Engineering Testing, Inc. (AET).
3. Prepare a Site Safety Plan for the Limited Phase Two.
4. A Liesch field technician will field screen the soil sample for visual and olfactory evidence of environmental contamination. Soil samples will also be field screened for the presence of organic vapors using a photoionization detector (PID) in accordance with the MPCA Guidance Document 4-04: Soil Sample Collection and Analysis Procedures. Liesch used a PID equipped with a 10.6 e.V. lamp to conduct field screening.
5. Collect a minimum of one soil sample from each soil boring for laboratory analysis to characterize the soil with the odors, staining and/or highest organic vapor concentrations. The soil samples will be analyzed for asbestos VOCs, RCRA Metals, GRO and DRO.
6. Preparation of a brief report summarizing the findings of the Limited Phase Two.

Subsequent to the submittal of the Liesch Phase Two ESA Proposal, it was determined that a MPCA Petroleum Remediation Section Notification was not required due to the LUST site being located on a separate parcel of the Scherer Bros Lumber Company Site addressed as 52 9th Avenue NE, located across Sibley Street to the east of the Property.

The scope of the Phase Two ESA consisted of the installation of eleven (11) soil borings on the Property and one soil boring located on the portion of the Scherer Bros Lumber Company Site adjacent to the north of the Property. Nine of the eleven soil borings were located primarily to

address geotechnical needs of the proposed redevelopment. However, two of the soil borings were located in areas to address preliminary environmental issues, including the UST removed in the mid-1980's located adjacent to the north of the Property near Building #6 (see **Figure 5** in **Appendix A** for location of former UST basin) and the closed LUST site to the east of the Property. **Figure 6** in **Appendix A** shows the soil boring locations.

Liesch representative Tom Johnson was present on the Property to oversee drilling activities, field screen soils and collect soil samples.

AET was retained by Scherer Limited Partnership to complete the twelve soil borings which were generally identified by AET for geotechnical information, with the two previously mentioned borings located by Liesch to assess possible petroleum impacts on the Property.

Soil samples were collected using a CME 55 drill rig. The drill rig was equipped with a 3 1/4" hollow stem auger. Soil samples were collected continuously to the termination of the boring or 20 feet bgs, whichever was deeper. Soil borings that were greater than 20 feet bgs were sampled at 5 foot intervals to the termination of the boring. All soil borings were completed using standard penetration testing and split spoon sampling procedures. All augers and sampling equipment were steam cleaned prior to the site investigation and between boring locations. Each boring was sampled continuously from the surface to termination of the boring. The split spoon sampler was washed with a non-phosphate detergent and rinsed with water between samples on those locations in which analytical samples were collected.

The soils were field screened by Liesch for visual and olfactory evidence of environmental contamination. Soils were screened for organic vapors using a PID equipped with a 10.6 e.V. lamp in accordance with the MPCA Guidance Document 4-04: Soil Sample Collection and Analysis Procedures. Soil samples were collected from the borings and select samples were analyzed for volatile organic compounds (VOCs), gasoline range organics (GRO) and diesel range organics (DRO), the eight Resource Conservation and Recovery Act (RCRA) metals and asbestos.

During field screening of soil samples Liesch noted clinkers (the incombustible residue, fused into an irregular lump, that remains after the combustion of coal) and possible black foundry sand in soil boring B-3 (see **Figure 6** in **Appendix A** for location). Based on past experience with clinkers and foundry sand, Liesch recommended to Ryan that the aforementioned sample should be analyzed for semi-volatile organic compounds (SVOCs). In an email to Liesch from Ryan dated July 8, 2009, Ryan authorized the SVOC analysis.

The following identifies the analytical methods used for the laboratory analysis of the soil samples.

- VOCs – U.S. Environmental Protection Agency (EPA) Method 8260
- RCRA metals – EPA Method 6010 (arsenic, barium, cadmium, chromium, lead, selenium and silver), EPA 7471 (mercury)
- DRO – Wisconsin Modified DRO
- GRO – Wisconsin Modified GRO
- SVOCs – EPA Method 8270
- Asbestos – EPA Method 600/R-93/116

2.0 LIMITED PHASE TWO ASSESSMENT

2.1 Boring Installation

Drilling of the soil borings B-1 through B-12 was completed July 6 through July 13, 2009 by AET utilizing hollow stem auger with split spoon sampler techniques to levels listed below:

- B-1 was completed at approximately 100 feet bgs;
- B-2, B-5, B-6 and B-12 were completed at approximately 61 feet bgs;
- B-3 was completed at approximately 119 feet bgs;
- B-4 was completed at approximately 80 feet bgs;
- B-7, B-8, B-9 and B-11 were completed at approximately 16 feet bgs, and
- B-10 was completed at approximately 21 feet bgs.

Soil samples were collected from a split spoon sampler. The drill rig and all down-hole tools were steam cleaned prior to use at the Property. All sampling tools were cleaned prior to use for successive borings. Soil types were identified during sample collection. Soil boring logs were completed by Liesch in the field and are included in **Appendix B**. Upon completion, soil borings were properly abandoned in accordance with Minnesota Department of Health (MDH) requirements.

2.2 Sample Collection and Analysis

All soil samples collected during soil boring completion were obtained directly from the split spoon sampler and field screened by a Liesch field technician for visual and olfactory evidence of environmental contamination. Soil samples were also field screened for the presence of organic vapors. Field screening for organic vapors was completed using a PID in accordance with Part I of

MPCA Guidance Document 4-04, *Soil Sample Collection and Analysis Procedures*. Liesch used a PID equipped with a 10.6 e.V. lamp to conduct field screening. Screening of the soil samples for organic vapors was measured by using a quart-size polyethylene freezer bag filled approximately 1/2 full of the soil sample to be analyzed. Soil clumps were broken and the bag shaken for approximately 15 seconds. After allowing the headspace to develop for approximately ten minutes, each field screened sample was analyzed using the PID and the maximum concentration recorded.

Soil samples selected for laboratory analyses were placed in the appropriate laboratory provided sample containers, labeled and placed in an ice-chilled cooler and transported to Pace Analytical Services, Inc. (Pace), Minnesota Laboratory Certification Number: 027-053-137, for laboratory analysis. The samples were analyzed within appropriate holding times.

Soil samples submitted for laboratory analysis, and the parameters analyzed for each of the soil samples, are indicated on **Table 1** in **Appendix C**. Analytical results for the VOCs, GRO, DRO, RCRA Metals and SVOCs are summarized in **Table 2** in **Appendix C** and the asbestos results are summarized in **Table 3** in **Appendix C**.

3.0 ASSESSMENT RESULTS/FINDINGS

3.1 Soil Borings Field Screening Results

All soil borings were located in asphalt paved areas with the exception of B-11, which was located in a landscaped area. Surficial soils were generally identified as fill material (gravel, rock, silt, and clay) ranging from the surface to a depth of 4 feet to 16.5 feet bgs. The fill material identified debris including pieces of concrete, brick, asphalt, wood, foundry sand, clinkers, ash, glass and rubber. Odors were noted in soil borings B-3 (creosote odor) and B-5 (petroleum odor).

Field screening observations, including the PID organic vapor measurements, are provided in the boring log summaries included in **Appendix B**. As observed from the boring logs, soil samples from boring locations B-1, B-2, B-4, B-6, B-7, B-9 through B-12 were measured at less than (<) one part per million (ppm) organic vapors as measured by headspace techniques.

Organic vapors measured in B-3 were <1 ppm from the surface to a depth of 4 feet bgs. Soil boring B-3, depth interval 7 feet bgs to 9 feet bgs, recorded the maximum organic vapor measurement at approximately 8 ppm. Below 14.5 feet bgs organic vapors were <1 ppm. Organic vapors measured in soil boring B-5 from the surface to 11 feet bgs ranged from approximately 1 ppm (at the surface) to a maximum of approximately 5 ppm (at the 4 feet-6 feet bgs sample interval). Below 12 feet bgs. organic vapors were <1 ppm. Organic vapors in soil boring B-8 ranged from 1 ppm to a maximum of 5 ppm from the surface to a depth of 6 feet bgs.

The 5 ppm organic vapors were detected in the sample from the depth interval of 2 feet to 4 feet bgs.

Soil analytical results are presented in **Table 2, Appendix C**. The depth interval for soil samples collected for laboratory analyses was based on information obtained during field screening of the soils. Generally, soil samples were collected for laboratory analyses from a depth interval above the observed ground water elevation and at the highest concentration of organic vapors recorded. In boring locations where no elevated levels of organic vapors were noted, the depth at which the sample was collected varied to characterize fill soil conditions across the Property. Two soil samples were submitted from soil boring B-10 in order to characterize fill material and to obtain a sample from a depth corresponding to a level below the USTs previously removed from the adjacent Property (see **Figure 4 in Appendix A** for former UST basin location). Soil samples for asbestos analysis were obtained from the interval immediately below the granular asphalt pavement base to determine if historic handling of vermiculite at the Property may have impacted soils prior to paving the area.

As shown in **Table 2 in Appendix B**, GRO was not detected in any of the samples submitted for analyses. VOCs were reported to be below laboratory reporting limits and RCRA Metals were either below laboratory reporting limits or below MPCA Tier 1 SLVs and MPCA Tier 2 Industrial SRVs for soil samples analyzed, with the exception of B-3 (7 feet-9 feet bgs). As previously summarized in **Section 1.2**, lead reported at 10,300 mg/kg for the sample from soil boring B-3 (7 feet-9 feet bgs) exceeded the MPCA Tier 1 SLV and MPCA Tier 2 Industrial SRV of 525 mg/kg and 700 mg/kg, respectively. Soil boring B-3 (7 feet-9 feet bgs) was also analyzed for SVOCs, due to the observed clinkers and possible foundry sand, and the Benzo(a)Pyrene (BaP) Equivalents, a calculated value from the analysis of polynuclear aromatic hydrocarbons (PAH), was reported at 5.36 mg/kg which exceeded the MPCA Tier 2 SRV of 3 mg/kg. One VOC, naphthalene, was detected in B-3 (7 feet-9 feet bgs) at 0.432 mg/kg, which is below the MPCA Tier 1 SLV and MPCA Tier 2 Industrial SRV of 7.5 mg/kg and 28 mg/kg, respectively.

The soil sample from B-4 was also analyzed for SVOCs, due to ash material observed in the boring, and the BaP Equivalents were reported at 3.52 mg/kg which exceeded the MPCA Tier 2 SRV of 3 mg/kg.

DRO was reported for the soil samples as follows:

- B-1 (12 feet-14 feet bgs) – 28.1 mg/kg
- B-2 (6 feet-8 feet bgs) – 186 mg/kg
- B-3 (7 feet--9 feet bgs) – 449 mg/kg

- B-4 (4 feet-6 feet bgs) - 65.4 mg/kg
- B-5 (4 feet-6 feet bgs) - 396 mg/kg
- B-6 (2 feet-4 feet bgs) - 69.6 mg/kg
- B-7 (1 foot-3 feet bgs) - 49.4 mg/kg
- B-8 (3 feet-5 feet bgs) - 25.8 mg/kg
- B-9 (4 feet-6 feet bgs) - 319 mg/kg.

The aforementioned sample locations were generally located in the paved parking area located west of the Building.

As shown in **Table 3** in **Appendix B**, asbestos was not reported above laboratory reporting limits in any of the samples collected on the Property (soil borings B-1 through B-11). The analytical report for soil boring B-12 (6 inches-1 foot bgs), which is located on the portion of the Scherer Bros Lumber Co. Site adjacent to the north of the Property, reported the asbestos chrysotile at <1%.

The Pace analytical reports are included in **Appendix D**.

4.0 DISCUSSION

Results of the analysis of the soil sample from soil boring B-3 (7 feet-9 feet bgs) collected at the Property identified a lead concentration of 10,300 mg/kg, which is above the MPCA Tier 1 SLV and MPCA Tier 2 Industrial SRV of 525 mg/kg and 700 mg/kg, respectively. BaP Equivalents were reported for soil boring B-3 (7 feet-9 feet bgs) at 5.36 mg/kg and at soil boring B-4 (7 feet-9 feet bgs) at 3.52 mg/kg both of which exceed the BaP Equivalents for the MPCA Tier 2 SRV of 3 mg/kg.

Based on the analytical information for soil boring B-3, the Owner and its attorneys, Fredrickson & Byron, P.A. were notified of the results of the soil sample analyses. Based on the results of the findings for soil boring B-3, Ms. Susan Steinwall with Fredrickson & Byron, P.A., reported a release to the Minnesota State Duty Officer on July 13, 2009. The report number issued by the State Duty Officer is #104811.

The location of soil borings B-3 and B-4 correspond to the general area where historical information noted in the Phase One ESA Report, identified a shingle mill and cedar post sawing mill on the southwest corner of the Property. A tank (no size or contents listed) and a chimney were noted in association with the mill. The clinkers reported in the soils in B-3 and B-4 may have been associated with the chimney reported for the shingle mill and cedar post sawing mill.

As previously identified, DRO was detected in soil samples from soil borings B-1 through B-9 ranging from 28.1 mg/kg to 449 mg/kg. The MPCA does not have an established cleanup standard for DRO. The presence of DRO identified in the soils may be associated with the fill brought onto the western portion of the Property which was formerly a side-channel to the Mississippi River and Hall's Island. The side channel was filled in the late 1960s. The source of the fill is unknown.

Analytical results from soil boring B-10, located on the Property adjacent to a former UST basin, and B-11, located down-gradient of a closed LUST site on the adjacent parcel, did not identify readily apparent petroleum impacts on the Property.

Asbestos was not identified on the Property. As previously identified vermiculite, which has been reported to contain asbestos fibers from certain quarries, was reported to have been historically warehoused and possibly used at the Property. Asbestos was identified in the sample from B-12 on the parcel to the north of the Property.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Work performed for the Limited Phase Two ESA included: completion of eleven soil borings on the Property and one soil boring located on the Scherer Bros Lumber Company Site to the north of the Property to assess sub-surface conditions; field screening of soil samples from the soil borings; collection of select soil samples from the soil borings for laboratory analysis; and preparation of this Limited Phase Two ESA Report. The soil borings were completed to assess the environmental and geotechnical conditions at the Property. Based on the results of the Limited Phase Two ESA, the following areas were identified as exhibiting environmental concern.

- Elevated lead and BaP Equivalents, exceeding the MPCA Tier 1 SLV and/or MPCA Tier 2 Industrial SRVs, were noted in soil samples in the area of soil borings B-3 and B-4. This area corresponds to the general area where historical information, as reported in the Phase One ESA Report, identified a shingle mill and cedar post sawing mill on the southwest corner of the Property. A tank (no size or contents listed) and a chimney were noted in association with the mill. The clinkers reported in the soils in B-3 and B-4 may have been associated with the chimney reported for the shingle mill and cedar post sawing mill.

- Elevated DRO was noted in soil samples from B-1 through B-9 on the Property. The source of the DRO on the Property is not definitively known. However, the presence of DRO identified in the soils may be associated with the fill brought onto the western portion of the Property which was formerly a side-channel to the Mississippi River and Hall's Island. The side channel was filled in the late 1960s. The source of the fill is unknown.
- All soil samples on the Property identified fill ranging from 2.5 feet to 19 feet bgs. Debris in the fill material was noted to contain concrete, brick, asphalt, wood, foundry sand, clinkers, ash, glass and rubber.

Liesch recommends the following:

- Enter the Property into the MPCA Voluntary Investigation and Cleanup (VIC) Program for non-petroleum impacts and the MPCA Petroleum Brownfields (PB) Program for petroleum impacts. Liesch recommends providing the MPCA a copy of the Phase One ESA Report and this Limited Phase Two ESA Report, along with the program Application and a proposed actions letter. The purpose of entering the Property into the aforementioned programs is to obtain approval for environmental remediation and/or redevelopment activities at the Property and to ultimately obtain closure and no further action letters for the Property.
- Develop a work plan for a Supplemental Limited Phase Two ESA (**Supplemental Phase Two ESA**) to further evaluate lead and BaP Equivalents in the area of soil boring B-3 and B-4, assess soil conditions beneath the Buildings, further evaluate fill on the Property, assess soil vapor issues as they relate to the Buildings and a proposed building to be constructed for redevelopment and to assess potential impacts to ground water at the Property. Liesch recommends that the work plan be submitted to the MPCA VIC Program for review and approval prior to implementing additional investigation activities. Please note, the MPCA PB Program does not approve work plans.
- Based on the results of this Limited Phase Two ESA Report and the Supplemental Phase Two ESA, prepare a response action plan (**RAP**), identifying environmental response actions to impacts identified on the Property. The RAP would be designed to manage impacted soils either on-site or for off-site disposal.
- If development is to occur in the area of B-12, further investigation for asbestos would be necessary.

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