

## TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

ETAS ID: TM389408

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT OF THE ENTIRE INTEREST AND THE GOODWILL		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>	<b>Formerly</b>	<b>Execution Date</b>	<b>Entity Type</b>
W. R. GRACE & CO.-CONN		12/30/2011	Corporation: CONNECTICUT
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	VERMICULITE SPECIALTY LLC		
<b>Street Address:</b>	1 Bala Avenue		
<b>Internal Address:</b>	Suite 310		
<b>City:</b>	Bala Cynwyd		
<b>State/Country:</b>	PENNSYLVANIA		
<b>Postal Code:</b>	19004		
<b>Entity Type:</b>	Limited Liability Company: DELAWARE		
<b>PROPERTY NUMBERS Total: 4</b>			
<b>Property Type</b>	<b>Number</b>	<b>Word Mark</b>	
<b>Registration Number:</b>	1557463	MICROLITE	
<b>Registration Number:</b>	2350087	MICROLITE	
<b>Registration Number:</b>	0917482	POOL CUSHION	
<b>Registration Number:</b>	2479442	ZONOLITE	
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>	2126983599		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
<b>Phone:</b>	2126983500		
<b>Email:</b>	patents@dechert.com		
<b>Correspondent Name:</b>	DECHERT LLP		
<b>Address Line 1:</b>	1095 AVENUE OF THE AMERICAS		
<b>Address Line 4:</b>	NEW YORK, NEW YORK 10036-6797		
<b>ATTORNEY DOCKET NUMBER:</b>	392735-140347		
<b>NAME OF SUBMITTER:</b>	Alan Wang		
<b>SIGNATURE:</b>	/Alan Wang/		
<b>DATE SIGNED:</b>	06/27/2016		
<b>Total Attachments: 29</b>			

CH \$115.00 1557463

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## TRADEMARK ASSIGNMENT

**W. R. GRACE & CO.-CONN.**, a Connecticut corporation having an office at 7500 Grace Drive, Columbia, Maryland 21044 (hereinafter "Assignor"), is the owner of the trademarks and registrations identified in the attached Trademark Schedule; and

**VERMICULITE SPECIALTY LLC**, a Delaware limited liability company having an office and place of business at 1 Bala Avenue, Suite 310, Bala Cynwyd, Pennsylvania 19004 (hereinafter "Assignee"), is desirous of acquiring from Assignor these trademarks and registrations.

In exchange for good and valuable consideration, the receipt of which is hereby acknowledged, including the execution of an Asset Purchase Agreement between the parties, Assignor hereby transfers and assigns to Assignee all of Assignor's worldwide rights, title and interest in and to the trademarks and registrations identified in the attached Trademark Schedule, together with the goodwill of the business associated with these trademarks, applications and registrations, the same to be held and enjoyed by Assignee for its own use and enjoyment in the United States and other countries of the world, and for the use and enjoyment of its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made.

In addition, Assignor hereby transfers and assigns to Assignee all rights to bring legal actions related to the aforementioned trademarks, applications and registrations, including actions for any infringement thereof, no matter whether the infringement occurred before or after this assignment, and the right to recover damages for such infringement.

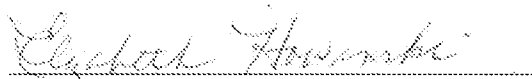
Assignor agrees that, at the request of Assignee, it will execute any further assignment document as may be necessary for filing or recording in Trademark Offices or Agencies anywhere in the world. Assignor hereby authorizes and requests the pertinent Registrar or other Governing Authority in each country to which a particular trademark pertains to issue all registration certificates or renewals thereof to Assignee, its successors and assigns.

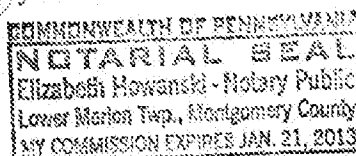
**W.R. GRACE & CO.-CONN.**

By   
Lawrence S. Shapiro  
Authorized Signatory

Montgomery County,  
Pennsylvania

On this 30<sup>th</sup> day of December, 2011, personally appeared before me Lawrence S. Shapiro, known to me to be an Authorized Signatory of W.R. Grace & Co.-Conn., with full authority to execute assignments on its behalf, who executed this instrument of assignment as the free act and deed of W.R. Grace & Co.-Conn.

  
Notary Public



**TRADEMARK**

**REEL: 005824 FRAME: 0242**

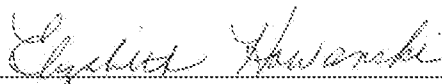
Accepted by Assignee

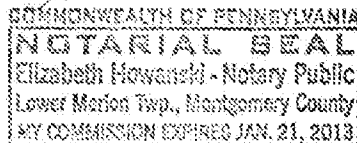
**VERMICULITE SPECIALTY LLC**

By:   
Jason Guzek  
President

On this 30<sup>th</sup> day of December, 2011, personally  
appeared before me Jason Guzek, known to me  
to be President of Vermiculite Specialty LLC,  
with full authority to accept assignments on its behalf,  
who executed this instrument of assignment as the free  
act and deed of Vermiculite Acquisition Corporation.

Montgomery County,  
Pennsylvania

  
Notary Public



# Trademark Schedule

Trademark	Reg. No.	Country	Status	Reg. Date	Renewal
POOL CUSHION	917482	United States	Registered	3-Aug-71	3-Aug-21
FPSV	3272319	United States	Registered	31-Jul-07	31-Jul-17
MICROLITE	391479	Canada	Registered	13-Dec-91	13-Dec-21
MICROLITE	1445760	United Kingdom	Registered	1-Nov-90	1-Nov-17
MICROLITE	1760875	United States	Registered	30-Mar-93	30-Mar-13
MICROLITE	1557463	United States	Registered	26-Sep-89	26-Sep-19
MICROLITE (Design)	2350087	United States	Registered	16-May-00	16-May-20
ZONOLITE	4548	Bahrain	Registered	1-Dec-78	25-Dec-13
ZONOLITE	48487	Canada	Registered	1-Jan-30	1-Jan-15
ZONOLITE	62728	Egypt	Registered	1-Aug-83	1-Aug-13
ZONOLITE	1395798	France	Registered	1-Mar-47	31-Jan-17
ZONOLITE	678027	United Kingdom	Registered	21-Mar-49	21-Mar-18
ZONOLITE	791006	Italy	Registered	26-Apr-47	27-Mar-17
ZONOLITE	477604	Mexico	Registered	21-Oct-94	1-Sep-14
ZONOLITE	2479442	United States	Registered	21-Aug-01	21-Aug-21

## **PATENT ASSIGNMENT**

THIS ASSIGNMENT, effective as of the 30th day of December, 2011, is made by W. R. GRACE & CO.-CONN., a corporation organized under the laws of the State of Connecticut, having an office located at 7500 Grace Drive, Columbia, Maryland 21044, USA (hereinafter "Assignor") and VERMICULITE SPECIALTY LLC, a limited liability company formed under the laws of the State of Delaware, having an office located at 1 Bala Avenue, Suite 310, Bala Cynwyd, Pennsylvania 19004, USA (hereinafter "Assignee").

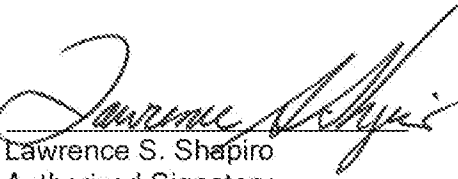

WHEREAS, Assignor is the owner of the patents listed on the schedule attached hereto ("Patent Rights"), including the rights to the inventions described therein; and

WHEREAS, Assignee wishes to acquire all of Assignor's right, title and interest in the Patent Rights, and Assignor is willing to transfer all its right, title and interest in the Patent Rights to Assignee, including the inventions covered thereby.

NOW, THEREFORE, to whom it may concern, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor has sold, assigned, transferred and conveyed, and does hereby sell, assign, transfer and convey to Assignee, Assignor's entire right, title and interest in and to the Patent Rights and the inventions described in the Patent Rights, and in and to any and all divisions, continuations, continuations-in-part, reexaminations, extensions and reissues already or to be granted, the same to be held and enjoyed by Assignee for its own use and enjoyment, and for the use and enjoyment of its successors and assigns, to the end of the term for which any patent is or may be granted or reissued, as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment and sale had not been made; together with all claims for damages by reason of past or future infringement of the Patent Rights, with the right to sue for and collect the same for its own use and benefit and for the use and benefit of its successors and assigns.

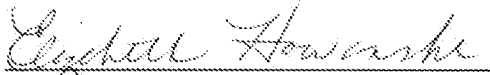
[Signature page follows]

IN WITNESS WHEREOF, Assignor has duly executed this instrument on the date first above written.

<b>W. R. GRACE &amp; CO.-CONN.</b>  By:  Lawrence S. Shapiro Authorized Signatory	<b>VERMICULITE SPECIALTY LLC</b>  By:  Jason Guzek President
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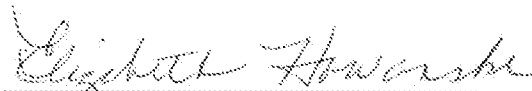
On this 30th day of December, 2011, personally appeared before me Lawrence S. Shapiro, known to me to be an Authorized Signatory of W.R. Grace & Co.-Conn., with full authority to execute assignments on its behalf, who executed this instrument of assignment as the free act and deed of W.R. Grace & Co.-Conn.

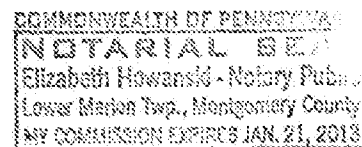
Montgomery County  
Pennsylvania

  
Notary Public

On this 30th day of December, 2011, personally appeared before me Jason Guzek, known to me to be President of Vermiculite Specialty LLC, with full authority to accept assignments on its behalf, who executed this Patent Assignment as the free act and deed of Vermiculite Specialty LLC.

Montgomery County  
Pennsylvania

  
Notary Public



**SCHEDULE TO W. R. GRACE & CO.-CONN. PATENT ASSIGNMENT**

<b>Case No.</b>	<b>Pat. No.</b>	<b>Expires</b>	<b>Title</b>
L-3634-01	US534055 8	14-Jun-1 3	Vermiculite Composition with Improved Thermal Expansion Properties
L-3635-01	US532650 0	14-Jun-1 3	Vermiculite Composition With Improved Chemical Exfoliation



## Schedule 4.8

### Patents

Case No.	Pat. No.	Expires	Title
L-3453-01	US5340643	26-Feb-13	Improved Intumescent Sheet Material
L-3634-01	US5340558	14-Jun-13	Vermiculite Composition with Improved Thermal Expansion Properties
L-3635-01	US5326500	14-Jun-13	Vermiculite Composition With Improved Chemical Exfoliation
L-3681-02	US6143050	12-Nov-19	Modifying Slag For Smelting Steel In Electric Arc Furnaces

### Trademarks

Trademark	Reg. No.	Country	Status	Reg. Date	Renewal
POOL CUSHION	917482	United States	Registered	3-Aug-71	3-Aug-21
FPSV	3272319	United States	Registered	31-Jul-07	31-Jul-17
MICROLITE	391479	Canada	Registered	13-Dec-91	13-Dec-21
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ZONOLITE	477604	Mexico	Registered	21-Oct-94	1-Sep-14
ZONOLITE	2479442	United States	Registered	21-Aug-01	21-Aug-21

From DATA Room

Vermiculite Patent List

Docket No.	Country	Patent No.	Expir Date
L-2896-03	Belgium	BE 0366417	24-Oct-2009
L-2896-03	Canada	CA 1329454	17-May-2011
L-2896-03	France	FR 0366417	24-Oct-2009
L-2896-03	Germany	DE 68926487	24-Oct-2009
L-2896-03	Italy	IT 0366417	24-Oct-2009
L-2896-03	Japan	JP 3056225	01-Feb-2010
L-2896-03	Netherlands	NL 0366417	24-Oct-2009
L-2896-03	Spain	ES 0366417	24-Oct-2009
L-2896-03	Switzerland	CH 0366417	24-Oct-2009
L-2896-03	United Kingdom	GB 0366417	24-Oct-2009
L-2896-04	United States	US 5102464	31-Oct-2010
L-3219-01	United States	US 5079280	15-Nov-2009
L-3219-02	United States	US 5116537	23-Jul-2011
L-3242-01	United States	US 5330843	19-Jul-2011
L-3250-01	United States	US 5244740	14-Sep-2010
L-3453-01	United States	US 5340643	26-Feb-2013
L-3634-01	United States	US 5340558	14-Jun-2013
L-3635-01	United States	US 5326500	14-Jun-2013
L-3681-02	United States	US 6143050	12-Nov-2019

*From Data Room*

# Vermiculite Trademark List

Mark	Country	Reg. No.	Class	Goods
FPSV	US	3272319	01	Ground vermiculite for use as a mineral additive in a wide variety of industries
METRO-MIX	CA	TMA304585		Soilless growing medium for plants comprising, as basic components, expanded vermiculite and peat moss
MICROLITE	CA	TMA391479		Dispersions of flake-like inorganic minerals
MICROLITE	GB	1445760	01	Fire extinguishing and fire retardant compositions; aqueous dispersions of inorganic materials and minerals
MICROLITE	US	1760875	01	Vermiculite powder for general industrial use
MICROLITE	US	1557463	01	Dispersions of flake-like inorganic minerals, namely, vermiculite
MICROLITE (design)	US	2350087	01	Flake-like inorganic minerals, including vermiculite, for general industrial use
POOL CUSHION	US	917482	19	Underlay for swimming pools
PROBASE	US	1646035	19	Cement vermiculite mix used in inground pool construction
REDI-EARTH	CA	TMA543824		Plant growing medium and fertilizer
TERRA-LITE	CA	TMA304123		Soilless growing media containing peat moss and vermiculite
TERRA-LITE	CA	UCA038069		(1) Expanded vermiculite used as a fertilizer for aerating the soil, starting seeds and cuttings and as a mulch; (2) Soilless growing media containing peat moss and vermiculite
ZONOLITE	BH	4548	19	Expanded vermiculite for use in building
ZONOLITE	CA	TMDA048487		Natural mineral substance for insulating decorative and other purposes.
ZONOLITE	EG	0062728	19	Natural mineral substance for insulating decorative and other purposes.
ZONOLITE	FR	1395798	01, 04, 06, 17	Natural mineral substances with insulating, decorative and acid resisting properties and all other products offering similar properties made up of this substance and of any other element
ZONOLITE	IT	791006	19	Natural mineral substance having insulating or ornamental properties and which is acid-resistant and which can be used alone or in combination with other substances for the specified purposes and probably for many other purposes unknown at present
ZONOLITE	MX	477604	01	Expanded vermiculite sold for use in such applications as horticultural absorbents, fillers for agricultural growing media and brake linings
ZONOLITE	GB	678027	19	Expanded vermiculite for use in building
ZONOLITE	US	2479442	01, 19	Chemicals, namely, a natural mineral aggregate in expanded form for use in the manufacture of and thermal barrier products -Intl. Cl. 1 Thermal barrier compositions and aggregates used - Intl. Cl. 19

*Have they trademarked specialty vermiculite*

**TRADEMARK**

**REEL: 005824 FRAME: 0250**

## Guidelines for Completing Trademarks Cover Sheets (PTO-1594)

Cover Sheet information must be submitted with each document to be recorded. If the document to be recorded concerns both patents and trademarks, separate patent and trademark cover sheets, including any attached pages for continuing information, must accompany the document. All pages of the cover sheet should be numbered consecutively for example, if both a patent and trademark cover sheet is used, and information is continued on one additional page for both patents and trademarks, the pages of the cover sheet would be numbered from 1 to 4.

### Item 1. Name of Conveying Party(ies).

Enter the full name of the party(ies) conveying the interest. If there is more than one conveying party, enter a check mark in the "Yes" box to indicate that additional information is attached. The name of the second and any subsequent conveying party(ies) should be placed on an attached page clearly identified as a continuation of the information in Item 1. Enter a check mark in the "No" box, if no information is contained on an attached page.

### Item 2. Name and Address of Receiving Party(ies).

Enter the name and full address of the first party receiving the interest. If there is more than one party receiving the interest, enter a check mark in the "Yes" box to indicate that additional information is attached. If the receiving party is an individual, check the "other" box, place the word "individual" in the following line, and enter the citizenship of the receiving individual. If the receiving party is a legal entity, designate the legal entity of the receiving party by checking the appropriate box. If the receiving party has more than one citizenship, then the citizenship of **each** partner should be specified on an additional sheet, and "See additional sheet" should be written on the line for citizenship. A corporation must set forth the state, if applicable, or country of incorporation. An association must set forth the state, if applicable, or country under which they are organized. If the receiving party is not domiciled in the United States, a designation of domestic representative is encouraged. Place a check mark in the appropriate box to indicate whether or not a designation of domestic representative is attached. Enter a check mark in the "No" box if no information is contained on an attached page.

### Item 3. Nature of Conveyance/Execution Date(s).

Enter the execution date(s) of the document. It is preferable to use the name of the month, or an abbreviation of that name, to minimize confusion over dates. In addition, place a check mark in the appropriate box describing the nature of the conveying document. If the "Other" box is checked, specify the nature of the conveyance. The "Other" box should be checked if the conveying/receiving party is correcting a previously filed document.

### Item 4. Application Number(s) or Registration Number(s).

Indicate the application number(s) including series code and serial number, and/or registration number(s) against which the document is to be recorded. The identification of the trademark should be provided for all properties to avoid recordation against the wrong property. A filing date should be provided only when the application or registration number is unknown. Enter a check mark in the appropriate box: "Yes" or "No" if additional numbers appear on attached pages. Be sure to identify numbers included on attached pages as the continuation of Item 4.

### Item 5. Name and Address of Party to whom correspondence concerning document should be mailed.

Enter the name and full address of the party to whom correspondence is to be mailed.

### Item 6. Total Applications and Trademarks Involved.

Enter the total number of applications and trademarks identified for recordation. Be sure to include all applications and registrations identified on the cover sheet and on additional pages.

### Block 7. Total Fee Enclosed.

Enter the total fee enclosed or authorized to be charged. A fee is required for each application and registration against which the document is recorded.

### Item 8. Payment Information.

Enter the deposit account number and authorized user name to authorize charges.

### Item 9. Signature.

Enter the name of the person submitting the document. The submitter must sign and date the cover sheet. Enter the total number of pages including the cover sheet, attachments, and document.

This collection of information is required by 35 USC 261 and 262 and 15 USC 1057 and 1060. The information is used by the public to submit (and by the USPTO to process) patent and trademark assignment requests. After the USPTO records the information, the records for patent and trademarks, assignments, and other associated documents can be inspected by the public. To view documents recorded under secrecy orders or documents recorded due to the interest of the federal government, a written authorization must be submitted. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the form to the USPTO. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Manager of the Assignment Division, Crystal Gateway 4, Room 310, 1213 Jefferson Davis Highway, Arlington, VA 22202. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450.

# EPAS Online Help

## Frequently Asked Questions About Assignments

### Technical questions

Questions or concerns regarding your submissions may be directed to the Assignment Services Branch at [epas@uspto.gov](mailto:epas@uspto.gov) or 571-272-3350. Technical questions should be emailed to [epas@uspto.gov](mailto:epas@uspto.gov)

### What software/hardware is required in order to file an assignment?

You need a web browser that is capable of uploading files to a server, a scanner and/or software, to prepare your supporting legal documents in TIFF or PDF format if a tiff or pdf must be created prior to completing the assignment forms. The EPAS system has been tested with Netscape Communicator 4.7 and Internet Explorer 5.5.

### How to generate correct TIFF image files?

Image files in TIFF format can be prepared either from a paper source using an optical scanner, or from word processing software using a TIFF printer driver.

TIFF image files are required to be letter size (8.5"x11"), 300dpi, single page, black and white images with portrait orientation. The size of an image file must be 2550 by 3300 pixels (the EPAS system accepts files that are within 5% deviation). Most TIFF format encodings, such as Uncompressed, RLE, Packbits, Deflate, CCITT Group3 and Group4, are recognized by the system and transformed to CCITT Group 4 TIFF files.

During the submission process, when the system successfully recognizes an uploaded TIFF file, a thumbnail image will be displayed at the bottom of the attachments web page indicating successful attachment/upload of the file. If the server does not recognize the tiff image an error message will be displayed on the web page, indicating the file has not been uploaded as an attachment to the assignment.

### Browser requirements:

If JavaScript is enabled in your browser's settings, clicking the radio buttons is not required but may be performed. If JavaScript has been disabled in your browser's settings you must select the radio button when displayed with a data element to ensure the proper value is captured.

The back and forward buttons provided by your computer's browser SHOULD NOT be used to navigate through the assignment web screens. Users should use either the named links shown at the top of each form or the back and next screen buttons shown at the bottom of each screen to navigate through the web forms.

### Data requirements:

Required data elements are identified by the asterisk \* symbol displayed in red next to the data elements label.

Data entry is limited to US-ASCII characters.

The Assignment Services Branch does not examine the substance of documents submitted for recording. The act of recording a document is a ministerial act, and not a determination of the document's validity or of its effect on title to an application, patent or registration. The Office will determine the effect of a document only when an assignee attempts to take an action in connection with an application, patent or registration (e.g., when an assignee files a statement of use or an affidavit or declaration of use under 15 U.S.C. §1058). 37 C.F.R. §3.54.

Most of the Assignment web screens are formatted as follows: on the left side of the form is the label for the data element, to the right of the label is a data entry box for entering more detailed data or a list of choices will be displayed for the user to select from for the appropriate data elements.

## Nature of Conveyance

You may select one of the pre-formatted nature of conveyance types or you may select the conveyance type "Other" and enter text that describes the interest conveyed or transaction to be recorded. Data entry is limited to 240 characters.

If the nature of conveyance is an "Assignment", "Merger", "Change of Name", or "Nunc Pro Tunc", you should check the appropriate box above.

### Assignment

A transfer of ownership of a patent or trademark application, published application, issued patent or trademark registration from one entity to another.

### Change Of Name

The conversion from one name to another.

### Corrective Assignments

A request to re-record an previously recorded assignment with an error made in either the coversheet data or the supporting legal documentation (of the original submission) by the customer. Please enter the following text "Corrective assignment to re-record assignment previously recorded under Reel and Frame xxxx/xxxx (show the actual values) to correct the <field name> from <previous value> to <correct value>". Note: The coversheet and assignment used for the original recordation must be attached to any request for a corrective assignment.

### Government Interest Agreement

*TBD*

Executive Order 9424 of February 18, 1944 (9 FR 1959, 3 CFR 1943-1948 Comp., p. 303)

Confirmatory License requires that several departments and other executive agencies of the Government,

including Government-owned or Government-controlled corporations, to forward promptly to the Commissioner of Patents and Trademarks for recording all licenses, assignments, or other interests of the Government in or under patents or patent applications. Assignments and other documents affecting title to patents or patent applications and documents not affecting title to patents or patent applications required by Executive Order 9424 to be filed will be recorded as provided in this part.

### **Merger**

A union of two or more commercial interests

### **Nunc-Pro-Tunc Assignments (Now for Then)**

A request to record an assignment, which includes documentation of transactions which occurred in the past that have not been made a matter of record in the USPTO.

### **Other**

Free form text entry to describe the nature of conveyance transaction for this submission.

### **Security Agreement**

An agreement between two or more parties.

## **Correspondence information**

Correspondence information contains the following data elements:

### **Telephone number**

Data entry is limited to 20 characters. Optional element.

### **Correspondent Name**

Enter the name to whom correspondence should be addressed. This field is limited to 40 characters. Required element.

### **Correspondent Address**

Correspondent's mailing address must, at a minimum, provide the correspondent name, the correspondent street address, correspondent city, state or country (not both) and postal code. An internal address may be provided if desired. Postal code is required for state, territories or provinces listed in the drop down list. Data entry for correspondent name, street and internal address components is limited to 40 characters. City is limited to 20 characters. Postal code is limited to 9 characters for US addresses, 15 characters for non-US addresses.

**Street Address**

Enter the street address to where correspondence may be delivered for the named correspondent. This field is limited to 40 characters. Required element.

**Internal Address**

Enter the internal mail address, such as suite, building name, mail stop, etc. for correspondent. This field is limited to 40 characters. Optional element.

**City**

Enter the city name for correspondent address. This field is limited to 20 characters. Required element.

**State/Country**

To complete the correspondent address a value from either the State or Country drop down lists is required.

NOTE: Assignment recordation practices allow entry of a State Name or a Country Name, but not both.

**State**

If the correspondent address is within the United States, a U.S. territory, or Canadian province you must select a name from the drop-down list provided for the State address element. You may enter the first character of the state name, province or territory to advance to the first state name matching the entered character. By entering the same letter repetitive times, the system will cycle through the list of state names that begin with the same letter. This field is limited to the values contained in the drop down list for the State data element.

**Country**

If the correspondent address is outside of the United States, U.S. territories or Canada, select a country name from the drop-down list provided. Enter the first character of the state name, province or territory to advance to the first state name matching the entered character. By entering the same letter repetitive times, the system will cycle through the list of state names that begin with the same letter. This field is limited to the values contained in the drop down list for the Country data element.

**Postal Code**

For US states and territories a postal code is required. Enter the 5 or 9 digit postal code for a U.S. mailing address. This field is limited to 10 characters for US codes (a hyphen is permitted in the 6th position). Entry of a postal code for foreign countries is optional. Non-US postal codes are limited to 15 positions.

**E-Mail address**

Provide the e-mail address to which the confirmation of receipt will be sent. Data entry is limited to 129 characters.



**Fax number**

Provide a US or Canada fax number to which the official notice of recordation/non-recordation will be delivered. This field is limited to a 10-digit telephone number. International fax phone numbers may be not be provided at this time.

**Name of Submitter**

Provide the name of the person preparing the Assignment Recordation Coversheet form. This element is required and provides the Assignment Services Branch with a contact name should questions arise from the submission.

**Conveying Party(ies)**

A conveying party may be one or more individuals or a business or organization. Required entry.

Identify the party or parties conveying the interest. Indicate the entity and the date of execution of each conveying party. A "Formerly" statement for each conveying party may be provided.

To view the data entered or to enter another conveying party click the "ADD" button after completing the conveying party data. Users may also enter conveying party data and click the "Add and Go to Next Screen" button to proceed to the next web form.

**Individual**

Select the radio button next to the label "Individual" to choose entity type or begin entering data in the one of the data elements associated with an individual's name. At a minimum, the first and last name must be provided.

When recorded an individual's name is stored in the Assignment Historical Database in the following format:

*Last name, first name middle name/initial, suffix, prefix*

For example Dr. Henry T. Doolittle, Sr would be recorded as

*Doolittle, Henry T., Sr., Dr.*

Conveying party names entered in the prescribed format, facilitate the search capabilities provided for the searching of assignment party names.

**Company**

Select the radio button next to the label "Company" or begin entering data in the data entry box displayed to the right of the label. Company Name is limited to 240 characters.

Business names that begin with the words, "The" or "A" should be entered as follows:

*Candy Store, The*

University Names should be entered as follows:

*Maryland, University of*

Names similar to the examples provided entered in a different format will be recorded as entered. Conveying party names entered in the prescribed format, facilitate the search capabilities provided for the searching of assignment party names.

### **Entity Types**

Select an entity type that describes the entity of the entered conveying party. You may select one of the pre-formatted entity types or provide text that describes the conveying party's entity type. Text entry is limited to 240 characters. Required element.

### **Citizenship**

If Citizenship for an individual is provided it must be selected from the the Country drop down list. Optional element.

If Citizenship for an entity type other than Individual is provided, select the name of the state or country of registration from the appropriate drop down list. Optional element.

### **Formerly**

Enter a "Formerly" statement that identifies the name by which the individual or company previously operated under for the conveying party if applicable. Data entry is limited to 240 characters. Optional element.

### **Date of Execution**

Enter the date on which the assignment document was executed. The format for date of execution is MM/DD/YYYY. For example, to enter March 29, 2003, put 03/29/2003 in the input field.

After completing the data input for a conveying party click the "ADD" button to review the data entered or to enter another conveying party or click "Add and Go to next screen" button. Entered information is displayed on the bottom of the screen. If the data entered is incorrect, click the "Edit" button to the right of the conveying party information and modify the data elements as required. All data entered will be displayed prior to beginning the fee payment process.

If required, additional conveying parties may be entered.

## **Receiving Party(ies)**

A receiving party may be one or more individuals or a business or organization. Required entry.

Identify the party or parties receiving the interest. Indicate the entity and address of each receiving party. A "Composed Of" statement and/or one of the following types of statements may be provided for each receiving

party (i.e., Doing Business As, Also Known As or Trading As).

When a receiving party is domiciled outside of the United States a designation of Domestic Representative may be provided. Domestic Representative data elements will only be displayed when a Country name is selected. The Domestic Representative information is not required but may be submitted by selecting the check box for Designation of Domestic Representative. When this box is checked, the following data elements are required, Domestic Representative Name, Street Address, City, State and Postal Code. Only one Designation of Domestic Representative may be submitted for a single assignment submission.

To review the data entered or to enter another receiving party click the "ADD" button after completing the receiving party data. Users may also enter receiving party data and click the "Add and Go to Next Screen" button to proceed to the next web form.

### Individual

Select the radio button next to the label "Individual" to choose entity type or begin entering data in the one of the data elements associated with an individual's name. At a minimum, the first and last name must be provided.

When recorded an individual's name is stored in the Assignment Historical Database in the following format:

*Last name, first name, middle name/initial, suffix, prefix*

For example Dr. Henry T. Doolittle, Sr would be recorded as

*Doolittle, Henry T., Sr., Dr.*

Receiving party names entered in the prescribed format, facilitate the search capabilities provided for the searching of assignment party names.

### Company

Select the radio button next to the label "Company" or begin entering data in the data entry box displayed to the right of the label. Data entry is limited to 240 characters.

Business names that begin with the words, "The" or "A" should be entered as follows:

*Candy Store, The*

University Names should be entered as follows:

*Maryland, University of*

Names similar to the examples provided entered in a different format will be recorded as entered. Receiving party names entered in the prescribed format, facilitate the search capabilities provided for the the searching of assignment party names.

### Entity Types

Select an entity type that describes the entity of the entered receiving party. Select one of the pre-formatted entity types or provide text that describes the receiving party's entity type. Text entry is limited to 240 characters. Required element.

**Composed Of:**

Enter the text describing the "Composed Of" statement. Data entry is limited to 240 characters. Optional element.

**Doing Business As:**

Enter the text describing the "Doing Business As" statement. You do not need to insert the letters "DBA" before the text (or name); the computer will automatically insert those letters before the text when the information is recorded. Data entry is limited to 240 characters. Optional element.

**Also Known As:**

Enter the text describing the "Also Known As" statement. You do not need to insert the letters "AKA" before the text (or name); the computer will automatically insert those letters before the text when the information is recorded. Data entry is limited to 240 characters. Optional element.

**Trading As:**

Enter the text describing the "Trading As" statement. You do not need to insert the letters "TA" before the text (or name); the computer will automatically insert those letters before the text when the information is recorded. Data entry is limited to 240 characters. Optional element.

**Citizenship**

If Citizenship for an individual is provided it must be selected from the the Country drop down list. Optional element.

If Citizenship for an entity type other than Individual is provided, select the name of the state or country of registration from the appropriate drop down list. Optional element.

**Street Address**

Enter the street address to where the receiving party may be contacted. This field is limited to 240 characters. Required element.

**Internal Address**

Enter the internal mail address, such as suite, building name, mail stop, etc. for the receiving party. This field is limited to 240 characters. Optional element.

## City

Enter the city name for the receiving party. This field is limited to 20 characters. Required element.

## State/Country

To complete the receiving party correspondence address a value from either the State or Country drop down lists is required.

NOTE: Assignment recordation practices require entry of either a State Name or a Country Name, but not both.

## State

If the receiving party correspondence address is within the United States, a U.S. territory, or Canadian province you must select a name from the drop-down list provided for the State address element. You may enter the first character of the state name, province or territory to advance to the first state name matching the entered character. By entering the same letter repetitive times, the system will cycle through the list of state names that begin with the same letter. This field is limited to the values contained in the drop down list for the State data element.

## Country

If the receiving party correspondence address is outside of the United States, U.S. territories or Canada, you must select a country name from the drop-down list provided. Enter the first character of the state name, province or territory to advance to the first state name matching the entered character. By entering the same letter repetitive times, the system will cycle through the list of state names that begin with the same letter. This field is limited to the values shown in the drop down list for the Country data element.

## Postal Code

For US states and territories a postal code is required. Enter the 5 or 9 digit postal code for a U.S. mailing address. This field is limited to 10 characters for US codes (a hyphen is permitted in the 6th position). Entry of a postal code for foreign countries is optional. Non-US postal codes are limited to 15 positions.

The Domestic Representative information is not required but may be submitted by selecting the check box for Designation of Domestic Representative. When this box is checked, the following data elements are required: Domestic Representative Name, Street Address, City, State and Postal Code. Only one Designation of Domestic Representative may be submitted for a single assignment submission.

## Name

Enter the name of the Domestic Representative. This field is limited to 40 characters.

## Street Address

Enter the street address of the Domestic Representative. This field is limited to 40 characters.

## Internal Address

Enter the internal mail address, such as suite, building name, mail stop, etc. for the Domestic Representative. This field is limited to 40 characters. Optional

## City

Enter the city name for the Domestic Representative. This field is limited to 20 characters.

## State/Country

Select a state name from the state drop down list.

You may enter the first character of the state name, province or territory to advance to the first state name matching the entered character. By entering the same letter repetitive times, the system will cycle through the list of state names that begin with the same letter. This field is limited to the values contained in the drop down list for the State data element.

## Postal Code

Enter the 5 or 9 digit postal code for the U.S. mailing address. This field is limited to 10 characters (a hyphen is permitted in the 6th position).

After completing the data input for a receiving party click the "ADD" button to review the data entered or to enter another receiving party or click "Add and Go to next screen" button. Entered information is displayed on the bottom of the screen. If the data entered is incorrect, click the "Edit" button to the right of the receiving party information and modify the data elements as required. All data entered will be displayed prior to beginning the fee payment process.

If required, additional receiving parties may be entered.

## Property(ies)

Indicate the property number for the U.S patent property by entering patent number for an issued US patent, a serial number for a pending US patent application, or a PCT number for an application filed under the Patent Cooperation Treaty agreement. For an issued patent provide either the patent number or the application number but DO NOT provide both. Entry of the patent number and its application number will be treated as two separate properties being assigned. The system will prevent duplicate entry of like numbers, but does not have the ability to determine the relationship between a patent number and a application number. The total number of properties entered and all entered property numbers will be displayed on the rendered coversheet and the Confirmation Receipt screen.

## Application Number

The application number is comprised of 2 digit series codes and a 6 digit numeric serial number. Enter the two-

digit series code followed by the six-digit serial number assigned to a patent application. The earliest series code begins with 04. A slash "/" or hyphen "-" may be placed between the series code and the serial number. Patent Application Series code may begin with either a 0, 1 or 2. Patent provisional numbers begin with a 6. Patent ReExamination application numbers begin with a 9. No other values will be permitted to be entered in the first position of an application number.

### **Patent Number**

Enter the patent number for the issued US patent. Data entry is limited to seven digits. Patent numbers less than seven digits may also be entered. Permitted values in the first position when providing a numeric patent number are 0-9. For alphanumeric patent number types, the user may enter a "D", "H" or "T" in the first position or "PP" or "RE" in the first two positions. No other combinations of alpha and numeric characters will be permitted for data entry.

### **Patent Cooperation Treaty Number**

Enter the US patent cooperation treaty number for the US property. Data entry is limited to seven digits. PCT numbers may not contain less than 7 digits. The first two positions should contain the country code, positions 3 and 4 should contain the year value (i.e., 99, 04, etc.) followed by a 5 digit numeric number (Example US0112345 or US01/12345, the slash may be included however it will be recorded without the slash '/' mark).

## **Properties (Bulk)**

This web form provides the ability to paste a list of property numbers. Indicate the property number for a U.S. patent application by entering either the US Application Number or the US Patent number or the US PCT number, but not to enter more than one number for the same property. Entry of the patent number and the application number or the application number and the PCT number will be considered as two separate properties being assigned. The system will prevent duplicate entry of like numbers, but does not have the ability to determine the relationship between numbers assigned to the same patent property. A space or a return must be placed between bulk listings of numbers. The system makes every attempt to prevent users from entering ill-formed property numbers. The application number is comprised of 2 digit series codes and a 6 digit numeric serial number. A slash '/' or hyphen '-' may be placed between the series code and the serial number. Please see either Application number, Patent number or Patent Cooperation Treaty number for the proper format of the property number.

## **Attachments**

From this page users may select a TIFF file for attachment from their computer workstations. One or more attachments may be provided. The TIFF files should be attached in the page order of the assignment. Attached TIFF files will be recorded in the order shown on the screen.

NOTE: Change of Name assignment does not require attachments.

## **Validation**

This web page is used to validate all entered assignment data. The data displayed should be carefully reviewed to prevent errors in your recordation. This is the last opportunity to make data entry corrections. Assignment Services Branch personnel may not recall your submission in order to prevent recordation nor will any changes to the data be performed by the USPTO. If data presented is recorded and is in error, a new assignment filing along with the necessary fees for recording will be required to implement corrections. The fee payment process is the next step prior to the USPTO receiving the assignment. When the fee payment process begins, corrections to entered data may not be performed. This is the last review available.

## Payment

The fee payment process is controlled by the U. S. Patent and Trademark Office Revenue Accounting and Management System. Questions or concerns about the fee payment process should be directed to the Office of Finance at [daadmin@uspto.gov](mailto:daadmin@uspto.gov) or (571)-272-6500.

## Confirmation of Receipt

This screen will be displayed upon completion of the fee payment process. Fee payment amount is shown at the bottom of the Confirmation Receipt. Additionally, a unique identifier has been assigned to the electronically filed assignment and a record of this number, namely EPAS ID, should be retained in the event it is necessary to contact the Assignment Services Branch regarding your submission. This Confirmation Receipt will be sent to the e-mail address provided.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

Mr. Jason Guzek  
Specialty Vermiculite Corporation  
1 Bala Avenue, Suite 310  
Bala Cynwood, PA 19004

November 5, 2012

SUBJECT: Sampling Results for Property at 26383 Highway 221, Enoree, South Carolina

Dear Mr. Guzek:


During the Fall of 2009 and 2011, the United States Environmental Protection Agency (EPA) conducted sampling at your facility located at 26383 Highway 221, Enoree, South Carolina. The purpose of the sampling was to determine whether contamination was present that may be related to the W. R. Grace vermiculite mine in Libby, Montana and to evaluate if any further response actions are necessary to protect public health and the environment. The analytical results from the samples that EPA collected from your property were hand delivered to facility personnel.

Samples were collected in and around the property, including bulk sampling and activity based sampling for asbestos. Vermiculite associated with the W. R. Grace mine in Libby, Montana is known to contain asbestos contamination.

The results are provided in the removal assessment report. EPA compares the results detected in each sample to applicable health-based benchmarks. Region 4's website provides additional information regarding sampling benchmarks and detection levels:  
[www.epa.gov/region4/waste/ots/index.html](http://www.epa.gov/region4/waste/ots/index.html).

EPA has evaluated the sampling results and has determined that no asbestos was detected equal to or greater than EPA's benchmark for excess cancer risk. Therefore, no further action by EPA is warranted at this time. If you have any questions or concerns related to EPA's assessment, please feel free to contact me at 404-562-8748.

Sincerely,



Terry Stillman, EPA  
On-Scene Coordinator

Cc: Remedium w/enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

OCT 29 2012

Mr. Ken Taylor  
SC Dept. of Health & Environmental Control  
2600 Bull Street  
Columbia, SC 29201

Subject: GAO 109 - Vermiculite Site  
26383 Hwy. 221  
Enoree, Laurens County, South Carolina

Dear Mr. Taylor:

The U.S. Environmental Protection Agency's Emergency Response and Removal Branch (ERRB) conducted a Removal Site Evaluation (RSE) at the above referenced site for potential removal action eligibility under the National Contingency Plan (NCP).

Based on the information collected during the RSE, the On-Scene Coordinator (OSC) recommends this site be given a **no further action** for removal eligibility under EPA's Superfund Removal Program (see enclosed RSE memo).

This determination does not preclude any other investigation or response action by other parties which may still be appropriate for this site. Should site conditions change or additional information become available, ERRB will re-evaluate this site as necessary.

Should you have any questions concerning ERRB's determination, please contact Terry Stilman, OSC, at (404) 562-8748, or Matt Taylor, Chief of Removal Operations Section, at (404) 562-8759.

Sincerely,

  
A. Shane Hitchcock, Chief  
Emergency Response & Removal Branch

Enclosure

cc: Dawn Taylor  
Tony Moore  
Matt Taylor  
Terry Stilman  
Kerri Sanders  
Alyssa Hughes  
Debbie Jourdan

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
GAO 109- Vermiculite Site  
Removal Site Evaluation POLREP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IV

**Subject:** POLREP #1  
Removal Site Evaluation  
GAO 109 - Vermiculite Site  
26383 Hwy 221  
Enoree, Laurens County, South Carolina 29335

**Latitude:** 34.6195 ° N  
**Longitude:** -81.9838 ° W

**To:** Matt Taylor, USEPA R4 ERRB   
**From:** Terry Stilman, On-Scene Coordinator  
**Date:** 09/24/2012  
**Reporting Period:** 10/26/2009 - 09/15/2012

**1. Introduction**

**Site Number:** B411  
**Response Authority:** CERCLA  
**Response Type:** Time-Critical  
**Response Lead:** EPA  
**Incident Category:** Removal Assessment  
**NPL Status:** Non NPL

**1.1 Site Description**

A Removal Site Evaluation (RSE) was conducted in response to an agency wide initiative to investigate vermiculite facilities that received vermiculite ore from the W.R. Grace mine in Libby, Montana. This site was designated by the U.S. Government Accountability Office (GAO) with the identification of GAO 109. The GAO 109 site is located at 26383 Hwy 221, Enoree, Laurens County, South Carolina, 29335. The site is currently an active vermiculite exfoliation facility. It occupies a large tract of land (540 acres) that is about 2 miles long north-to-south and up to about 0.7 miles wide east-to-west. The main industrial complex is located in the northern portion of the site. This complex has two side-by-side railroad spurs that bisect the complex along an east-to-west axis. The processing components conducted in the main industrial complex include: mixing vermiculite ore with water to produce a slurry; wet separation of the vermiculite from the ore; transport of waste products to facility settling ponds; drying and screening of the concentrated vermiculite; storage of the vermiculite concentrate in buildings and a silo; furnaces for vermiculite exfoliation; product bagging and bulk bagging areas; raw

materials storage; product storage; and truck and railcar loading. Other buildings located in the main industrial area in the northern portion of the site include: a welding shop; a maintenance shop; a parts warehouse; a laboratory building; a Microlite plant; a research building; a heavy equipment building; gas and diesel storage facilities; and an office building. A large area just north of the main industrial complex is used to receive and store vermiculite ore brought in by truck from area mines. Large ponds occupy the majority of the extreme northern, central, and southern portions of the site. The facility discharges waste products in slurry form into settling ponds in the southern and central portions of the site; one of the ponds, Blakley Pond, is contained within berms created out of the dried waste products.

### **1.2 Preliminary Removal Assessment/Removal Site Inspection Results**

The GAO 109 site is currently owned by Specialty Vermiculite LLC. At the time of the 2009 field sampling event and follow-up site visit, the site was owned by W.R. Grace & Co. The GAO 109 site was sold by W. R. Grace & Co. to Specialty Vermiculite LLC on December 30, 2011. The vermiculite ore wet separation plant at the GAO 109 site was built by the Zonolite Company in 1956, and began production that same year; the facility was named the Kearney Mill. W.R. Grace bought the Zonolite Company in 1963. The vermiculite expanding plant at the Kearney Mill was built in 1966. Vermiculite ore is received for processing and expanding at the site from local mines. Mining is conducted in the open pit method using dozers, draglines, and backhoes. Raw ore is transported to the mill by dump truck. Aside from receiving local vermiculite ore, EPA records indicate that the Kearney Mill (the GAO 109 site) received vermiculite concentrate from the W.R. Grace (formerly Zonolite) vermiculite mine in Libby, Montana. EPA conducted an inspection and sampling event at the GAO 109 site in June 2001. The results of the analysis of the collected samples indicated that asbestos in the forms of tremolite and actinolite were detected in some of the samples at concentrations less than 1 percent. Based on EPA's National review of sites that had received vermiculite ore from the W. R. Grace Libby, Montana mine, additional assessment of the site was warranted.

### **1.3 Site location**

The GAO 109 site is located about 28 miles southeast of downtown Greenville, South Carolina and about 23 miles south of downtown Spartanburg, South Carolina. The GAO 109 site is located in a mainly rural area with a mixture of forest and agricultural fields, small towns, and some industrial development. The town of Enoree is located less than 2.5 miles north-northeast of the site and the town of Laurens is about 7 miles south-southwest of the site. An active railroad line passes through the eastern portion of the site.

## **2.0 Removal Site Evaluation**

On October 27 and 28, 2009, aggressive air sampling Rounds 1 and 2 were conducted inside structures located on the site. These structures are a part of the main industrial complex located in the northern portion of the site. On October 27, 2009, aggressive air sampling Round 1 was conducted inside the south complex, an approximately 54,000 square foot building that is used for vermiculite exfoliation, product bagging, raw materials and product storage, and truck loading.

On October 28, 2009, aggressive air sampling Round 2 was conducted inside three structures of the north complex; the north complex includes the following operations: the wet separation of the vermiculite from ore, drying and screening of the concentrated vermiculite, storage of the vermiculite concentrate in buildings and a silo, bulk bagging, truck and railcar loading, welding and maintenance, and parts storage. Bulk material and microvacuum dust samples were collected in association with aggressive air sampling Round 2. Five bulk materials grab samples and five microvacuum dust grab samples were collected from horizontal surfaces inside the bulk concentrate storage building. This building was chosen for sampling because it was used to store vermiculite concentrate in open piles.

Activity Based Sampling (ABS) air sampling was conducted at the site to simulate human exposure to asbestos during typical site activities. Three rounds of ABS air sampling were conducted at the Site on October 26, 2009:

two raking and one ATV riding. A follow-up sampling event occurred on October 25, 2011. During the first sampling event, a collocated set consisting of one high flow rate air sample and one low flow rate air sample was collected from the breathing zone of the participants who raked or drove the ATV over the course of each ABS round. An array of four or more ABS perimeter high flow rate and low flow rate air sample sets was also set up at locations surrounding the area chosen for each activity. One ABS perimeter high flow rate and low flow rate air sample set was positioned upwind of the activity area, and three or more ABS perimeter high flow rate and low flow rate air sample sets were positioned downwind of the activity area. A bulk material sample was collected in each ABS area after air sampling was completed.

#### Activity-Based Sampling Round 1: Raking

On October 26, 2009, ABS air sampling Round 1 was conducted and involved participants raking a low lying grassy area of both bare soil and grass, located adjacent to a paved parking area that is south of the site's main industrial complex.

#### Activity-Based Sampling Round 2: Raking

On October 26, 2009, ABS air sampling Round 2 was conducted and involved raking an area that consisted mostly of gravel and bare soil with sparse vegetation. The activity area is located northeast of the main industrial complex and the vermiculite ore storage area at the site.

#### Activity-Based Sampling Round 3: ATV Riding

On October 26, 2009, ABS air sampling Round 3 was conducted and involved the riding of two ATV's on a loop road that was built atop berms created out of dried waste products. The berms surround a large settling pond (Blakely Pond) located at the south end of the property. This area was chosen for the activity because: the area is proximate to the facility's settling ponds, the facility discharges waste products in slurry form into the settling ponds, the loop road overlays the berms of dried waste products, and plant vehicle traffic occurs on the loop road.

#### Additional Bulk Material Sampling

Additional bulk material samples were collected at the site on October 27, 2009. Both additional bulk material samples were grab samples of soil and debris collected using hand augers from separate locations between the two side-by-side railroad spurs that bisect the main industrial complex at the site.

#### Additional Site Visit and Phase II Sampling

A follow-up site visit was made on March 21, 2011, with the purpose of inspecting the site to determine if the October 2009 sampling event had been sufficient; it had been almost 17 months since the October 2009 sampling event had been conducted. Upon arrival at the site, EPA and START met the plant manager and conducted a tour of the areas of the site where the ABS events were conducted in October 2009. After viewing the ABS locations, the EPA OSC concluded that the activities on the facility during the October 2009 sampling event adequately addressed facility conditions. However, due to the potential for off-site migration from Blakely Pond, additional sampling was conducted.

The facility disposes of waste from the vermiculite ore beneficiation process into settling ponds. Some of the wastes deposited into the ponds are used as construction material for building up the berms around Blakely Pond. EPA records indicating that the GAO 109 site received vermiculite ore or vermiculite concentrate from the W.R. Grace vermiculite mine in Libby, Montana. During the 2009 sampling event, positive asbestos results including Libby amphibole, were detected in the air samples collected during the ATV riding activity around Blakely Pond. Because residential properties are located near Blakely Pond along the southeastern boundary of the site, additional sampling was conducted.

#### Phase II Sampling

On October 25, 2011, ABS air sampling Round 1 was conducted and involved three participants simultaneously walking a course located on the five residential properties that were the focus of this Phase II investigation. The activity area was located in the northwestern portion of the five connected residential properties, adjacent to the site. Two five-point composite bulk material samples of soil and debris (G109-AB1-B-217 and G109-AB1-B-218) were collected from within the activity area after completion of ABS air sampling Round 1. Four additional

bulk material samples were collected from locations within the basin of and on the eastern berm bordering Blakely Pond.

## 2.2 Analytical Results

### Aggressive Air Round 1

Of the 16 aggressive air indoor air samples that were analyzed, the results for eight of the samples show nondetects for all phase contrast microscopy equivalent (PCME) structures listed. The results for the remaining eight samples all show positive PCME results; sample G109-AA1-AL-44 has positive PCME results for total asbestos ( $3.0\text{E-}03$  s/cc), total amphibole ( $3.0\text{E-}03$  s/cc), actinolite ( $9.9\text{E-}04$  s/cc), and Libby amphibole ( $2.0\text{E-}03$  s/cc); sample G109-AA1-AL-48 has positive PCME results for total asbestos ( $2.9\text{E-}03$  s/cc), total amphibole ( $2.9\text{E-}03$  s/cc), and Libby amphibole ( $2.9\text{E-}03$  s/cc); sample G109-AA1-AL-50 has positive PCME results for total asbestos ( $3.0\text{E-}03$  s/cc), total amphibole ( $3.0\text{E-}03$  s/cc), and Libby amphibole ( $3.0\text{E-}03$  s/cc); sample G109-AA1-AL-54 has positive PCME results for total asbestos ( $4.0\text{E-}03$  s/cc), total amphibole ( $4.0\text{E-}03$  s/cc), and Libby amphibole ( $4.0\text{E-}03$  s/cc); samples G109-AA1-AL-60, G109-AA1-AL-62, and G109-AA1-AL-64 all have identical positive PCME results for total asbestos ( $9.8\text{E-}04$  s/cc), total amphibole ( $9.8\text{E-}04$  s/cc), and Libby amphibole ( $9.8\text{E-}04$  s/cc); and sample G109-AA1-AL-66 has positive PCME results for total asbestos ( $4.0\text{E-}03$  s/cc), total amphibole ( $4.0\text{E-}03$  s/cc), and Libby amphibole ( $4.0\text{E-}03$  s/cc).

### Aggressive Air Round 2

Of the seven aggressive air indoor air samples that were analyzed, the results for two of the samples (G109-AA2-AH-81 and G109-AA2-AL-90) show nondetects for all PCME structures listed. The results for the remaining five samples all show positive PCME results; sample G109-AA2-AL-78 has positive PCME results for total asbestos ( $2.0\text{E-}03$  s/cc), total amphibole ( $2.0\text{E-}03$  s/cc), actinolite ( $1.0\text{E-}03$  s/cc), and Libby amphibole ( $1.0\text{E-}03$  s/cc); sample G109-AA2-AL-80 has positive PCME results for total asbestos (an estimated  $1.8\text{E-}02$  J s/cc; identification and quantification are both estimated), total amphibole (an estimated  $1.8\text{E-}02$  J s/cc; identification and quantification are both estimated), actinolite (an estimated  $9.8\text{E-}04$  J s/cc; identification and quantification are both estimated), and Libby amphibole (an estimated  $1.7\text{E-}02$  J s/cc; identification and quantification are both estimated); sample G109-AA2-AL-84 has positive PCME results for total asbestos ( $2.9\text{E-}03$  s/cc), total amphibole ( $2.9\text{E-}03$  s/cc), actinolite ( $2.0\text{E-}03$  s/cc), and Libby amphibole ( $9.8\text{E-}04$  s/cc); sample G109-AA2-AL-87 has positive PCME results for total asbestos ( $1.9\text{E-}03$  s/cc), total amphibole ( $1.9\text{E-}03$  s/cc), and anthophyllite ( $1.9\text{E-}03$  s/cc); and sample G109-AA2-AL-88-DUP has positive PCME results for total asbestos ( $1.9\text{E-}03$  s/cc), total amphibole ( $1.9\text{E-}03$  s/cc), anthophyllite ( $9.6\text{E-}04$  s/cc), and Libby amphibole ( $9.6\text{E-}04$  s/cc). The results of the two aggressive air downwind perimeter high flow rate air samples that were analyzed (G109-AA2-PH-91 and G109-AA2-PH-92) show nondetects for all PCME structures listed. The results for the daily background air samples (G109-BKA-94 and G109-BKA-94-DUP) that also served as the aggressive air upwind perimeter high flow rate air samples for this aggressive air sampling round show nondetects for all PCME structures listed.

### Bulk Material and Microvacuum Dust Sample Results

The results for bulk material sample G109-AA2-B-96 indicate that asbestos was detected. The results for the fraction of the sample greater than  $75\text{ }\mu\text{m}$  indicate that an estimated 0.25 J percent asbestos identified as actinolite (identification is also qualified as estimated) was detected. In addition, the results for the greater than  $75\text{ }\mu\text{m}$  fraction of the sample also indicate that a trace of nonasbestos fibrous material identified as cellulose was detected (identification is qualified as estimated). The results for the fraction of the sample less than  $75\text{ }\mu\text{m}$  show nondetects for asbestos. Microvacuum dust sample G109-AA2-D-97 was collected from the same location as bulk material sample G109-AA2-B-96. The results