

EXHIBIT A

Settlement Agreement

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 4

IN THE MATTER OF:
Vermiculite Exfoliation Site GAO 149
Nashville, Davidson County, Tennessee

W. R. Grace & Co.,
Respondent

ADMINISTRATIVE SETTLEMENT
AGREEMENT AND ORDER ON
CONSENT FOR REMOVAL ACTION

U.S. EPA Region 4
Docket No. CERCLA-04-2013-3757

Proceeding Under Sections 104, 106(a), 107
and 122 of the Comprehensive
Environmental Response, Compensation,
and Liability Act, as amended, 42 U.S.C. §
9604, 9606(a), 9607 and 9622

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent (Settlement Agreement) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and W. R. Grace & Co., (Grace or Respondent). This Settlement Agreement provides for the performance of a removal action by Respondent and the reimbursement of response costs incurred by the United States in connection with the U.S. Government Accountability Office (GAO) 149 Vermiculite Exfoliation Site, EPA Site/Spill Number B413, in Nashville, Davidson County, Tennessee (the Site, as defined in Paragraph 8(v)).
2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607, and 9622, as amended (CERCLA).
3. The EPA has notified the Tennessee Department of Environment and Conservation (TDEC) of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
4. The EPA and Respondent recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of facts, conclusions of law, and determinations of Section IV and V of this Settlement Agreement. Respondent agrees to comply with and be bound by the terms of this Settlement Agreement and further agrees that it will not contest the basis or validity of this Settlement Agreement or its terms.
5. Respondent Grace has filed for protection under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Court for the District of Delaware (Bankruptcy Court), In re W. R. Grace & Co., et al., No. 01-01139 (JKF). In connection with its reorganization, Grace has entered into a Multi-Site Settlement Agreement with the EPA. The Site meets the requirements of an "Additional Site" under that Agreement, and, following completion of the Work required by this Order, this Site will be a "Liquidated Site" and subject to the terms and conditions pursuant to the Multi-Site Agreement.

II. PARTIES BOUND

6. This Settlement Agreement applies to and is binding upon the EPA, and upon Respondent, Respondent's successors and assigns. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Settlement Agreement.
7. Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Respondent shall be responsible for any noncompliance with this Settlement Agreement.

III. DEFINITIONS

8. Unless noted to the contrary, the terms of this Settlement Agreement shall have the meaning assigned to those terms pursuant to CERCLA or any regulation promulgated under CERCLA. Whenever the terms listed below are used in this Settlement Agreement and Appendices attached hereto, the following definitions shall apply:

- a. "Action Memorandum" shall mean the EPA Action Memorandum relating to the Site signed on August 7, 2012 (as revised), by the Regional Administrator, EPA Region 4, or his delegate, and all attachments thereto. The "Action Memorandum" is attached as Appendix A.
- b. "Asbestos" is a "hazardous substance" within the meaning of Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- c. "Asbestos-Containing Soil" shall mean the reproducible presence of Asbestos Fibers in the soil at 0.25% asbestos or greater as determined by Method CARB 435 – 400 count.
- d. "Bankruptcy Court" shall mean the United States Bankruptcy Court for the District of Delaware.
- e. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9601, *et seq.*
- f. "Day" shall mean a calendar day. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the end of the next working day.
- g. "Effective Date" shall be the effective date of this Settlement Agreement as provided in Section XXIX.
- h. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.
- i. "Future Response Costs" means all direct and indirect costs that the United States incurs, has paid, or will pay in connection with the Site that are not included in the Cost Summary dated December 6, 2012, attached hereto as Appendix B.
- j. "Hazardous Substance" shall mean any substance meeting the definition provided in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- k. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.
- l. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any amendments thereto.

- m. "Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral.
- n. "Parties" shall mean the EPA and Respondent.
- o. "Past Response Costs" means the costs paid by EPA through December 6, 2012, and that are included in the Cost Summary dated December 6, 2012, attached hereto as Appendix B. Interest on past costs shall begin to accrue thirty (30) days after the Effective Date.
- p. "Plan of Reorganization" shall mean any plan of reorganization under Chapter 11 of the United States Bankruptcy Code that is confirmed and becomes effective in the Grace Bankruptcy case.
- q. "RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. § 6901, et seq. (also known as the Resource Conservation and Recovery Act).
- r. "Respondent" shall mean W. R. Grace & Co.
- s. "Response Costs" shall mean direct and indirect costs that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 34 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation). "Response Costs" shall also include direct and indirect costs that the United States paid or incurred at or in connection with the Site through the Effective Date of this Settlement Agreement, plus interest if applicable.
- t. "Section" shall mean a portion of this Settlement Agreement identified by a roman numeral.
- u. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXVIII). In the event of conflict between this Administrative Settlement Agreement and Order on Consent and any appendix, this Administrative Settlement Agreement and Order on Consent shall control.
- v. "Site" shall mean the WR Grace Superfund Site identified as GAO 149 or EPA Site/Spill Number B413, located at 4061 Powell Avenue, Nashville, Davidson County, Tennessee 37204. The Site is approximately 1.5 acres and is located about 4.5 miles south-southeast of downtown Nashville, Tennessee. The immediate vicinity of the Site consists of industrially- and commercially-developed areas. The Radnor Yards, a large railroad yard, is located about 1,000 feet southeast of the Site. The Site is bordered to the east by a driveway and commercial business. The Site is bordered to the south by a strip of wooded land with a ditch; beyond this is a commercial business. To the west the Site is bordered by a strip of wooded land and a small creek; beyond this is railroad line. The Site is bordered to the north by a strip of wooded land with a ditch, beyond which is a large open area used for outdoor parking and storage. Residential neighborhoods exist to the west and southwest of the Site, with the nearest residences located less than 1,000 feet west of the Site. Large neighborhoods are also located less than one mile to the east-northeast and south-southeast of the Site. The nearest school, Father Ryan High School is located about 1,500 feet northwest of the Site. See Appendix C for a general depiction of the Site.
- w. "State" shall mean the State of Tennessee as represented by TDEC.

x. "Waste Material" shall mean: (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6903(27).

y. "Work" shall mean all activities Respondent is required to perform under this Settlement Agreement.

IV. FINDINGS OF FACT

For the purposes of this Settlement Agreement, the EPA finds that:

9. The Site is comprised of approximately 1.5 acres in Nashville, Davidson County, Tennessee.

10. The Site is located at 4061 Powell Avenue, Nashville, Davidson County, Tennessee. Vermiculite concentrate was reportedly processed at the Site. Currently the Site is owned by the Stirton Oman Trust and leased to a commercial construction company. The Site consists of one large (main) building, with a large paved parking and vehicle access area adjacent to the eastern side of the building and an area of vermiculite and Asbestos-Containing Soils at the back of the Site. The Site is mostly fenced, with unpaved strips of land existing at the margins surrounding the building and paved area. Ditches or creeks border the northern, western, and southern perimeters of the Site.

11. The Site is the location of a former vermiculite exfoliation (expansion) plant. Grace leased the Site for over 20 years, beginning sometime in 1963. The Site also was occupied by Tennessee Zonolite in the past. The years of operation of the Site as a vermiculite expansion plant were reported to have been from 1952 to 1989. The Site closed as an expansion facility in 1989, at which time all equipment and the storage silos were removed.

12. The EPA conducted a removal site evaluation at the Site in response to an initiative to investigate vermiculite exfoliation facilities that received vermiculite concentrate from the Grace vermiculite mine in Libby, Montana. According to various sources, between 15,156 and 44,199 tons of vermiculite concentrate from the Grace vermiculite mine in Libby, Montana were shipped to the Site.

13. On February 4 and 5, 2010, Tetra Tech START and EPA conducted aggressive air, ABS, and bulk material sampling at the Site. In addition, Tetra Tech START and EPA conducted a follow-up Site visit on March 9, 2011, which did not involve additional sampling.

14. A follow-up visit to the Site was made on March 9, 2011, to inspect the Site to determine if the February 2010 sampling event had been sufficient; it had been about 13 months since the February 2010 sampling event was conducted. Upon arrival at the Site, EPA and Tetra Tech START performed a visual inspection of the Site from the vantage point of the driveway fronting the Site along its eastern perimeter. EPA and Tetra Tech never entered the fenced perimeter of the Site. Tetra Tech START member Randy Mayer noted that additional landscaping appeared to have occurred at the Site since the February 2010 sampling event. It was also noted that the GAO 149 Site appeared occupied. Based on this visual inspection, the EPA On-Scene Coordinator (OSC) concluded that the activities of the February 2010 field sampling event adequately addressed Site conditions. After inspecting the Site, EPA and Tetra Tech departed from the area.

15. Asbestos was detected in bulk samples gathered at the Site. The levels of asbestos detected in the soil at the Site, if not addressed by implementation of the Work pursuant to this Settlement Agreement, may pose an imminent and substantial threat to users of the Site if the soil is disturbed (see Action Memorandum, Appendix A).

V. CONCLUSIONS OF LAW AND DETERMINATIONS

16. Based on the Findings of Fact set forth above, and the Administrative Record supporting this removal action, EPA has determined that:

- a. The Site is a “facility” as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- b. The contamination found at the Site, as identified in the Findings of Fact above, include “hazardous substance(s)” as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- c. Respondent is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- d. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Respondent, Grace, was the “operator” of the Site at the time of disposal of hazardous substances at the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).
- e. The conditions described in the Findings of Fact above constitute an actual or threatened “release” of a hazardous substance from the Site as defined by Sections 101(22) of CERCLA, 42 U.S.C. § 9601(22).
- f. The Work required by this Settlement Agreement is necessary to protect the public health, welfare, or the environment, and if carried out in compliance with the terms of this Settlement Agreement, will be considered consistent with the NCP as provided in 40 C.F.R. Section 300.700(c)(3)(ii) of the NCP.

VI. ORDER

17. Based upon the foregoing Findings of Fact, Conclusions of Law and Determinations, and the Administrative Record for this Site, it is hereby ordered and agreed that Respondent shall comply with the following provisions, including but not limited to all attachments to this Settlement Agreement, and all documents incorporated by reference into this Settlement Agreement.

**VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR,
AND ON-SCENE COORDINATOR**

18. Respondent shall retain one or more contractors to perform the Work and shall notify the EPA of the name(s) and qualifications of such contractor(s) within fourteen (14) days of the Effective Date. Respondent shall also notify the EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least fourteen (14) days prior to commencement of such Work. The EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If the EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify the EPA of that contractor's name and qualifications within fourteen (14) days of receipt of the EPA's disapproval. The proposed contractor must demonstrate compliance with ANSI/ASQC E-4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B0-1/002) or equivalent documentation as required by EPA.

19. Within fourteen (14) days after the Effective Date, Respondent shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondent required by this Settlement Agreement and shall submit to the EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent reasonably possible, the Project Coordinator shall be present on Site or readily available during Site work. The EPA retains the right to disapprove of the designated Project Coordinator. If the EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify the EPA of that person's name, address, telephone number, and qualifications within fourteen (14) days following receipt of the EPA's disapproval. Receipt by Respondent's Project Coordinator of any notice or communication from the EPA relating to this Settlement Agreement shall constitute receipt by Respondent.

20. The EPA has designated Kevin Eichinger of the EPA Region 4 Emergency Response and Removal Branch as its OSC, who may be reached at (404) 562-8268. Except as otherwise provided in this Settlement Agreement, Respondent shall direct all submissions required by this Settlement Agreement to the OSC at 61 Forsyth St., S.W., Atlanta, Georgia 30303.

21. The EPA and Respondent shall have the right, subject to the immediately preceding paragraphs, to change their designated OSC or Project Coordinator. Respondent shall notify the EPA fourteen (14) days before such a change is made. The initial notification may be orally made but it shall be promptly followed by a written notice.

VIII. WORK TO BE PERFORMED

22. Respondent shall perform, at a minimum, all actions necessary to implement the Work set forth in this Paragraph. The actions to be implemented include, but may not be limited to, the following:

- a. Erect warning signs and fencing to prevent access to areas where Asbestos-Containing Soil may be present.

- b. Coordinate with the OSC to assess the layout of the Site and determine required Site activities, equipment, personnel, and logistics. Prepare a Removal Action Work Plan (Work Plan) that details plans for the removal and disposal of the Asbestos-Containing Soils. This Work Plan will be based on the delineation of the site as conducted by the USEPA in 2011-2012. Additional delineation by the USEPA may occur once removal work begins.
- c. Excavate and remove areas of delineated Asbestos-Containing Soil. In areas with Asbestos-Containing Soil at depths greater than two (2) feet below the natural grade, place an appropriate warning barrier and cover such areas with clean soil.
- d. Suppress dust and control erosion during the removal action.
- e. Monitor and sample, as necessary, personal and ambient air during the removal activities.
- f. Proper characterization, transportation and off-Site disposal of the Asbestos-Containing Soils at an EPA-approved facility.
- g. Excavation shall include all soil or waste containing asbestos greater than or equal to 0.25% using "Standard Operating Procedures of CARB 435 Analysis," 400 point count. (The 0.25% represents the lowest reliable reporting level of the method. This method can be used for screening in order to establish presence of Asbestos Structures, but cannot be used to establish absence of Asbestos Structures or to meet risk-based clean-up goals.)
- h. Once the soil concentration of asbestos is less than 0.25%, activity-based sampling (ABS) shall be conducted in the excavation area. The site-specific, risk-based ABS clearance criterion for the site is 0.01 f/cc (PCME fibers only);
- i. ABS will be performed according to OSWER's Environmental Response Team's Standard Operating Procedure #2084, Revision 0 (May 2007). The exposure scenario used for evaluation of Asbestos Fiber releases to the air must be consistent with the current and anticipated future land use and the analytical sensitivity shall be calculated based on the expected exposure scenario using the EPA Framework for Investigating Asbestos-Contaminated Superfund Sites, OSWER Directive 9200.0-68 (U.S. EPA Sept. 2008);
- j. Backfill excavated areas with clean fill material, as necessary.
- k. Restore disturbed areas to its pre-removal action grade to the greatest extent reasonably practicable and in a manner that prevents sediment runoff onto adjacent properties. Restoration shall be coordinated with the landowners to the extent reasonably practicable. Respondent shall not be required to accommodate unreasonable requests.

23. Upon the EPA's approval of the Work Plan, Respondent shall implement the Work Plan in accordance with the schedule of activities provided therein. Soil used for backfill shall be sampled to screen for hazardous substance contamination. A vegetative cover shall be installed to prevent the erosion of the soil backfill, where appropriate. During the response action, Respondent shall erect

warning signs and fencing to prevent access to contaminated areas.

24. Work Plan and Implementation

- a. Within sixty (60) days after the Effective Date, Respondent shall submit to the EPA for approval a draft Work Plan for performing the removal action generally described in Paragraph 22 above. The draft Work Plan shall provide a description of, and an expeditious schedule for, the actions required by this Settlement Agreement. A Quality Assurance Project Plan (QAPP) will be prepared for this site. The QAPP will be prepared in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/240/R-02/009, December 2002).
- b. The EPA may approve, disapprove, require revisions to, or modify the draft Work Plan in whole or in part. If the EPA requires revisions, Respondent shall submit a revised draft Work Plan within twenty (20) days of receipt of the EPA's notification of the required revisions. Respondent shall implement the Work Plan as approved in writing by the EPA in accordance with the schedule approved by the EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement Agreement.
- c. Respondent shall not commence any Work except in conformance with the terms of this Settlement Agreement. Respondent shall not commence implementation of the Work Plan developed hereunder until receiving written EPA approval pursuant to Paragraph 24(b).

25. Health and Safety Plan. Respondent shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-Site work under this Settlement Agreement in accordance with the schedule in the Work Plan. This plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910 and 29 C.F.R. 1926.1101 OSHA Asbestos in Construction, if applicable. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by the EPA and shall implement the plan during the pendency of the removal action.

26. Quality Assurance and Sampling

- a. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to the EPA's direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), and chain of custody procedures. Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1994), "EPA Requirements for Quality Management Plans" (QA/R-2) (EPA/240/B-01/002, March 2001), and the

U.S. EPA Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001), or equivalent documentation as determined by the EPA. The EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements.

- b. Upon request by the EPA, Respondent shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Respondent shall provide to the EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.
- c. Upon request by the EPA, Respondent shall allow the EPA or its authorized representatives to take split and/or duplicate samples. Respondent shall notify the EPA not less than ten (10) days in advance of any sample collection activity, unless shorter notice is agreed to by the EPA. The EPA shall have the right to take any additional samples that the EPA deems necessary. Upon request, the EPA shall allow Respondent to take split or duplicate samples of any samples it takes as part of its oversight of Respondent's implementation of the Work.

27. Post-Removal Site Control. In accordance with the Work Plan schedule, or as otherwise directed by the EPA, in the event that Asbestos-Containing Soil remains on the Site at the conclusion of the response, Respondent shall, in cooperation with the Owner, submit a proposal for post-removal Site control consistent with Section 300.415(l) of the National Contingency Plan (NCP) and OSWER Directive 9360.2-02. Upon the EPA's approval, Respondent shall implement such controls and shall provide the EPA with documentation of all post-removal Site control arrangements. Post-removal site controls (e.g., caps and barriers), and institutional controls (e.g., deed restrictions), may be implemented based on the results of the activity-based sampling if such sampling shows that the Site does not allow for unlimited and unrestricted use and that further excavation is not practicable. Both parties must agree in writing to the use of post-removal site controls.

28. Reporting

- a. Respondent shall submit a written progress report to the EPA concerning actions undertaken pursuant to this Settlement Agreement every two (2) weeks after the date of receipt of the EPA's approval of the Work Plan until termination of this Settlement Agreement, unless otherwise directed by the OSC in writing. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.
- b. Respondent shall submit all plans, reports, or other submissions required by this Settlement Agreement, or any approved Work Plan in electronic format. Upon request by the EPA, Respondent shall submit paper copies.

29. Final Report. Within sixty (60) days after completion of all removal actions required under this Settlement Agreement, the Respondent shall submit for the EPA's review and approval a final report summarizing the actions taken to comply with this Settlement Agreement. The final report shall conform, at a minimum, with the requirements set forth in 40 C.F.R. Section 300.165 of the NCP entitled "OSC Reports." The final report shall include a good faith estimate of total costs or a statement

of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-Site or handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination of those materials, a presentation of the analytical results of sampling and analyses performed, and accompanying appendices containing relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

30. Off-Site Shipments

- a. Respondent shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the OSC. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed ten (10) cubic yards.
 - i. Respondent shall include in the written notification the following information: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.
 - ii. The identity of the receiving facility and state will be determined by Respondent following the award of the contract for the removal action. Respondent shall provide the information required by Paragraph 29(a) and 29(b) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.
- b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-Site location, Respondent shall obtain the EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent shall only send hazardous substances, pollutants, or contaminants from the Site to an off-Site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

IX. SITE ACCESS

31. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondent, Respondent shall use its best efforts to obtain all necessary access agreements within thirty (30) days after the Effective Date, or as otherwise specified in writing by the OSC. Respondent shall immediately notify the EPA if after using its best efforts it is unable to obtain such agreements.

32. If the EPA determines that to implement this Settlement Agreement, land and/or water use restrictions are needed on property owned or controlled by persons other than Respondent, Respondent shall use best efforts to secure from such persons an agreement, enforceable by Respondent, the EPA, and TDEC, to refrain from using the Site, or such other property, in any manner that would interfere with or adversely affect the implementation, integrity, or protectiveness of the removal measures to be performed pursuant to this Settlement Agreement.

33. If directed by the EPA, Respondent in cooperation with Owner, shall execute and record the easement, or land/water use restrictions in the Davidson County land records office, as an easement, running with the land, that grants the right to enforce the land/water use restrictions, or other restrictions that the EPA determines are necessary to implement, ensure non-interference with, or ensure the protectiveness of the removal measures to be performed pursuant to this Settlement Agreement. The rights to enforce land/water use restrictions shall be granted to: (i) the EPA and its representatives; (ii) the State and its representatives; and/or (iii) other appropriate grantees.

34. If any access or land/water use restriction agreements are not obtained within sixty (60) days of the date of the EPA's request for such a restriction, Respondent shall promptly notify the EPA in writing, and shall include in that notification a summary of the steps that Respondent has taken to attempt to comply with this Settlement Agreement. The EPA may, as it deems appropriate, assist Respondent in obtaining land/water use restrictions, either in the form of contractual agreements or in the form of easements running with the land, or in obtaining the release or subordination of a prior lien or encumbrance. Respondent shall reimburse the EPA in accordance with the procedures in Section XV (Payment of Response Costs) for direct or indirect costs incurred by the EPA in obtaining such land/water use restrictions including, but not limited to, the cost of attorney time and the amount of monetary consideration paid or just compensation.

35. Notwithstanding any provision of this Settlement Agreement, the EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

X. ACCESS TO INFORMATION

36. Respondent shall provide to the EPA and TDEC, upon request, copies of all documents and information within its possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondent shall also make available to the EPA and TDEC, for purposes of investigation, information gathering, or testimony, its

employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

37. Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to the EPA and TDEC under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to the EPA, and TDEC, or if the EPA has notified Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondent.

38. Respondent may assert that certain documents, records and other information are privileged under the attorney-client, attorney work product, or any other privilege recognized by federal law. If the Respondent asserts such a privilege in lieu of providing documents, it shall provide EPA and TDEC with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated as required to be submitted to EPA by this Settlement Agreement shall be withheld on the grounds that they are privileged.

39. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XI. RECORD RETENTION

40. Until ten (10) years after Respondent's receipt of the EPA's notification pursuant to Section XXVII (Notice of Completion of Work), Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until ten (10) years after Respondent's receipt of the EPA's notification pursuant to Section XXVII (Notice of Completion of Work), Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

41. At the conclusion of this document retention period, Respondent shall notify the EPA, and TDEC, at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by the EPA, or TDEC, Respondent shall deliver any such records or documents to the EPA or TDEC. Respondent may assert that certain documents, records and other information are privileged under the attorney-client, attorney work product, or any other privilege recognized by federal law. If Respondent asserts such a privilege, it shall provide the EPA or TDEC with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and

recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Respondent. However, no documents, reports or other information created or generated as required by this Settlement Agreement shall be withheld on the grounds that they are privileged.

42. Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by the EPA or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all of the EPA's requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XII. COMPLIANCE WITH OTHER LAWS

43. Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-Site actions required pursuant to this Settlement Agreement shall, to the extent reasonably practicable, as determined by the EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws. Respondent shall identify ARARs in the Work Plan subject to the EPA's approval.

XIII. EMERGENCY RESPONSE AND NOTIFICATION RELEASES

44. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action. Respondent shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent shall also immediately notify the OSC at 404-562-8322 or, in the event of his/her unavailability, shall notify the Regional Duty Officer, Emergency Response and Removal Branch, EPA Region 4 at 404-562-8700 of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and the EPA takes such action instead, Respondent shall reimburse the EPA of all costs of the response action not inconsistent with the NCP pursuant to Section XV (Payment of Response Costs).

45. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the OSC at 404-562-8322 and the National Response Center at (800) 424-8802. Respondent shall submit a written report to the EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

XIV. AUTHORITY OF THE EPA ON-SCENE COORDINATOR

46. The OSC shall be responsible for overseeing the Respondent's implementation of this Settlement Agreement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement Agreement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

XV. PAYMENT OF RESPONSE COSTS

47. Payments for Response Costs

a. Respondent shall pay the EPA Response Costs not inconsistent with the NCP. On a periodic basis, the EPA will send Respondent a bill requiring payment that includes a cost summary. Respondent shall make all payments within thirty (30) days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 48 or Section XVI (Dispute Resolution) of this Settlement Agreement.

b. Respondent shall make all payments required by this Paragraph by check(s) made payable to "EPA Hazardous Substance Superfund," referencing the name and address of the party making payment and EPA Site/Spill Number B413. Respondent shall send the check(s) to:

US Environmental Protection Agency
Superfund Payments-Region 4
Cincinnati Finance Center
P.O. Box 979076
St. Louis, MO 63197-9000

c. At the time of payment, Respondent shall send notice that payment has been made to the OSC Kevin Eichinger, and Ms. Paula Painter, U.S. EPA Region 4, 61 Forsyth St., S.W., Atlanta, GA 30303.

d. The total amount to be paid by Respondent pursuant to Paragraph 47(a) shall be deposited in the EPA Hazardous Substance Superfund.

48. Subject to Paragraph 88, in the event that the payment for Response Costs is not made within thirty (30) days after the effective date of the Plan of Reorganization, (as defined in the Plan of Reorganization) or the payment of Future Response Costs is not made within thirty (30) days of Respondent's receipt of a bill, Respondent shall pay Interest on the unpaid balance. The Interest on Past Response Costs shall begin to accrue thirty (30) days after the Effective Date and shall continue to accrue until the date of payment. The interest on Future Response Costs shall begin to accrue on the later of thirty (30) days after receipt of the bill or thirty (30) days after the Plan's effective date, and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Section XVIII.

49. Respondent may dispute all or part of a bill for Response Costs submitted under this Settlement Agreement, if Respondent alleges that the EPA has made an accounting error, or if Respondent alleges that a cost item is inconsistent with the NCP. If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent shall pay the full amount of the uncontested costs to EPA as specified in Paragraph 47 on or before the due date. Within the same time period, Respondent shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent shall simultaneously transmit a copy of both checks to the persons listed in Paragraph 47(c) above. Respondent shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within ten (10) days after the dispute is resolved.

50. Effective upon the execution of this Agreement by a Respondent, such Respondent agrees that the time period after the date of its execution shall not be included in computing the running of any statute of limitations potentially applicable to any action brought by the United States related to the "matters addressed" as defined in Paragraph 75 of this Agreement, and that, in any action brought by the United States related to the "matters addressed" as defined in Paragraph 75 of this Agreement, the Respondent will not assert, and may not maintain, any defense or claim based upon principles of statute of limitations, waiver, laches, estoppel, or other defense based on the passage of time after its execution of this Agreement. If the EPA gives notice to Respondent that it will not make this Agreement effective, the statute of limitations shall begin to run again commencing ninety (90) days after the date such notice is sent by the EPA.

XVI. DISPUTE RESOLUTION

51. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

52. If Respondent objects to any EPA action taken pursuant to this Settlement Agreement, including billings for Response Costs, it shall notify EPA in writing of the objection within fourteen (14) days of receipt or notice of such action, unless the objection has been resolved informally. EPA and Respondent shall have fourteen (14) days from EPA's receipt of Respondent's written objection to resolve the dispute through formal negotiations (the Negotiation Period), which may include exchange of written statements upon request from one Party to another. The Negotiation Period may be extended at the sole discretion of EPA.

53. Any agreement reached by the parties pursuant to this Section shall be in writing and shall, upon signature by both parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, the EPA Region 4 Superfund Division Director will issue a written decision on the dispute to Respondent. The EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondent's obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with the EPA's decision, whichever occurs.

XVII. FORCE MAJEURE

54. Respondent agrees to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed or prevented by a force majeure. For purposes of this Settlement Agreement, a force majeure is defined as any event arising from causes beyond the control of Respondent, or of any entity controlled by Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondent's best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the Work, or increased cost of performance, or a failure to attain performance standards/action levels set forth in the Action Memorandum.

55. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a force majeure event, Respondent shall notify the EPA orally within forty-eight (48) hours of when Respondent knew that the event might cause a delay. Within fourteen (14) days thereafter, Respondent shall provide to the EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondent from asserting any claim of force majeure for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

56. If the EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Settlement Agreement that are affected by the force majeure event will be extended by the EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If the EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, the EPA will notify Respondent in writing of its decision. If the EPA agrees that the delay is attributable to a force majeure event, the EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

XVIII. STIPULATED PENALTIES

57. Respondent shall be liable to the EPA for stipulated penalties in the amounts set forth in Paragraph 58 for failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Section XVII (Force Majeure). "Compliance" by Respondent shall include completion of the activities under this Settlement Agreement or any Work Plan or other plan approved under this Settlement Agreement identified below in accordance with all applicable requirements of law, this Settlement Agreement, and any plans or other documents approved by the EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

58. Stipulated Penalty Amounts. For each day, or portion thereof, that Respondent fails to perform any requirement of this Settlement Agreement in accordance with the schedule established pursuant to this

Settlement Agreement after receipt of written notice from the EPA of such non-compliance, Respondent shall be liable as follows:

<u>Period of Noncompliance</u>	<u>Penalty Per Violation Per Day</u>
1st through 14th day	\$250
15th through 30th day	\$500
31st day and beyond	\$750

59. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue:

(1) with respect to a deficient submission under Section VIII (Work to be Performed), during the period, if any, beginning on the 31st day after the EPA's receipt of such submission until the date that the EPA notifies Respondent of any deficiency; and (2) with respect to a decision by the Region 4 Superfund Division Director, under Paragraph 53 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Superfund Division Director issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

60. Following the EPA's determination that Respondent failed to comply with a requirement of this Settlement Agreement, the EPA may give Respondent written notification of the failure and describe the noncompliance. The EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether the EPA has notified Respondent of a violation.

61. All penalties accruing under this Section shall be due and payable to the EPA within thirty (30) days of Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the dispute resolution procedures under Section XVI (Dispute Resolution). All payments to the EPA under this Section shall be paid by check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to US Environmental Protection Agency, Fines and Penalties, Cincinnati Finance Center, PO Box 979077, St. Louis, MO 63197-9000, and shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID Number B413, the EPA Docket Number CERCLA-04-2013-3757, and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section and any accompanying transmittal letter(s) shall be sent to the EPA as provided in Paragraph 47(c), and to Paula Painter, U.S. EPA Region 4, 61 Forsyth St., SW, Atlanta, GA, 30303.

62. The payment of penalties shall not alter in any way Respondent's obligation to complete performance of the Work required under this Settlement Agreement.

63. Penalties shall continue to accrue during any dispute resolution period, but need not be paid until fifteen (15) days after the dispute is resolved by agreement or by receipt of the EPA's decision.

64. If Respondent fails to pay stipulated penalties when due, the EPA may institute proceedings to collect the penalties, as well as Interest. Respondent shall pay Interest on the unpaid balance, which

shall begin to accrue on the date of demand made pursuant to Paragraph 58. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of the EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that the EPA shall not seek civil penalties pursuant to Section 106(b) or 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of this Settlement Agreement. Notwithstanding any other provision of this Section, the EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XIX. COVENANT NOT TO SUE BY EPA

65. In consideration of the actions that will be performed and the payments that will be made by Respondent under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, the EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Response Costs. This covenant not to sue shall take effect upon receipt by the EPA of the Response Costs due under Section XV of this Settlement Agreement and any Interest or Stipulated Penalties due for failure to pay Response Costs as required by Sections XV and XVIII of this Settlement Agreement. This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondent of its obligations under this Settlement Agreement, including, but not limited to, payment of Response Costs pursuant to Section XV. This covenant not to sue extends only to Respondent, its affiliates, subsidiaries and successors, and does not extend to any other person.

XX. RESERVATION OF RIGHTS BY EPA

66. Except as specifically provided in this Settlement Agreement, nothing herein shall limit the power and authority of the EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent the EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

67. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. The EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

- a. Claims based on a failure by Respondent to meet a requirement of this Settlement Agreement;
- b. Liability for costs not included within the definition of Response Costs;
- c. Liability for performance of response action other than the Work;

- d. Criminal liability;
- e. Liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. Liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and
- g. Liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site pursuant to terms of the Multi-Site Agreement.

68. Work Takeover. In the event the EPA determines that Respondent has ceased implementation of any portion of the Work, is seriously or repeatedly deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, the EPA may assume the performance of all or any portion of the Work as the EPA determines necessary. Respondent may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute the EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Response Costs that Respondent shall pay pursuant to Section XV (Payment of Response Costs). Notwithstanding any other provision of this Settlement Agreement, the EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXI. COVENANT NOT TO SUE BY RESPONDENT

69. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Response Costs, or this Settlement Agreement, including, but not limited to:

- a. Any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law,
- b. Any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Tennessee Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law, or
- c. Any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Site.

70. Except as provided in Paragraph 67, these covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 67(b), (c), and (e) - (g), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

71. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXII. OTHER CLAIMS

72. By issuance of this Settlement Agreement, the United States and the EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or the EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement Agreement.

73. Except as expressly provided in Section XIX and Section XXI, nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

74. No action or decision by the EPA pursuant to this Settlement Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION

75. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that Respondent, its affiliates, subsidiaries and successors are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for matters addressed in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work, Past Response Costs, and Future Response Costs.

76. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondent, its affiliates, subsidiaries and successors have, as of the Effective Date, resolved their liability to the United States for the Work, Past Response Costs, and Future Response Costs.

77. Except as provided in Section XIX (Covenant not to Sue by EPA) and in Section XXI (Covenant not to Sue by Respondent), nothing in this Settlement Agreement precludes the United States or Respondents from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

XXIV. INDEMNIFICATION

78. Respondent shall indemnify, save, and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondent agrees to pay the United States all costs incurred by the

United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any such contractor shall be considered an agent of the United States.

79. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

80. Respondent waives all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXV. INSURANCE

81. At least seven (7) days prior to commencing any on-Site work under this Settlement Agreement, Respondent or its contractor or subcontractor shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of one (1) million dollars, combined single limit. Within the same time period, Respondent shall provide EPA with certificates of such insurance and a copy of each insurance policy. In addition, for the duration of the Settlement Agreement, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Settlement Agreement. If Respondent demonstrates by evidence satisfactory to the EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. MODIFICATIONS

82. The OSC may make modifications to any plan or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by the EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement Agreement may be modified in writing by mutual agreement of the parties.

83. If Respondent seeks permission to deviate from any approved Work Plan or schedule, Respondent's Project Coordinator shall submit a written request to the EPA for approval outlining the proposed

modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 82.

84. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXVII. NOTICE OF COMPLETION OF WORK

85. When the EPA determines, after the EPA's review of the Final Report, that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, the EPA will provide written notice to Respondent. If the EPA determines that any such Work has not been completed in accordance with this Settlement Agreement, the EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the Work Plan if appropriate in order to correct such deficiencies. Respondent shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Work Plan shall be a violation of this Settlement Agreement.

XXVIII. SEVERABILITY/INTEGRATION/APPENDICES

86. If a court issues an order that invalidates any provision of this Settlement Agreement or finds that Respondent has sufficient cause not to comply with one or more provisions of this Settlement Agreement, Respondent shall remain bound to comply with all provisions of this Settlement Agreement not invalidated or determined to be subject to a sufficient cause defense by the court's order.

87. This Settlement Agreement and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement: (A) Action Memorandum; (B) Cost Summary; and (C) Map of Site.

XXIX. EFFECTIVE DATE

88. Grace has filed a petition for reorganization under Chapter 11 of the U. S. Bankruptcy Code. On January 31, 2011, the Bankruptcy Court entered an Order confirming Grace's Chapter 11 Plan of Reorganization. On January 31, 2012, the U.S. District Court for the District of Delaware entered its order affirming the Confirmation Order. In order to receive authority to carry out its obligations under this Settlement Agreement including, but not limited to, carrying out the Work to be performed, and paying the EPA's Response Costs, within fourteen (14) days after signature by all Parties, Grace shall file a notice of claims settlement (Claims Settlement Notice) pursuant to the Bankruptcy Court's *Amended Order Authorizing and Approving an Omnibus Procedure for Settling Certain Claims and Causes of Action Brought by or Against the Debtors in a Judicial, Administrative, Arbitral or Other Action or Proceeding* [Docket no. 936] and to allow as an unsecured, prepetition, non-priority claim

against Grace's Chapter 11 estate the EPA's Response Costs. The allowed payment of EPA's Response Costs and any other payments due under or made pursuant to this Settlement Agreement shall be made pursuant to and in accordance with the date specified in Grace's confirmed Plan of Reorganization for the payment of allowed claims. This Settlement Agreement shall not be effective and binding on Grace unless and until the conditions set forth in paragraph 89 are satisfied.

89. The Effective Date of this Settlement Agreement shall be three (3) days after Grace files a certificate of no objection to the Claims Settlement Notice, *provided, however*, that if an objection to the proposed settlement is made, then the Effective Date of the Settlement Agreement shall be the date on which an order entered by the Bankruptcy Court approving this Settlement Agreement becomes final and nonappealable.

The undersigned representative of Respondent certifies that they are fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the party they represent to this document.

Agreed this 12 day of Feb, 2013.

For Respondent, W. R. Grace & Co.

By: Karen E. Ethier
Karen E. Ethier
Vice President, Global Environment Health and Safety

It is so ORDERED and Agreed this 6 day of Feb, 2013.

By: Franklin E. Hill
Franklin E. Hill, Director
Superfund Division,
Region 4
U.S. Environmental Protection Agency

Appendix A

Action Memorandum



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

AUG 7 2012

ENFORCEMENT ACTION MEMORANDUM

SUBJECT: Request for a Removal Action at the Nashville Vermiculite Site – GAO 149
~~4601~~ Powell Avenue Nashville, Davidson County, Tennessee 37204
4061 *ENG*

FROM: Kevin Eichinger, On-Scene Coordinator *Kuo*
Emergency Response and Removal Branch

THRU: Shane Hitchcock, Chief *ASH*
Emergency Response and Removal Branch

TO: Franklin E. Hill, Director
Superfund Division

SITE ID: B413

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed enforcement-lead time-critical removal action described herein for the Nashville Vermiculite Site - GAO 149 (the Site) located in Nashville, Davidson County, Tennessee. The release of a hazardous substance at the Site poses a threat to public health and the environment pursuant to Section 104 (a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) section 300.415(b) criteria for removal actions.

As a result of Site conditions, CERCLA removal actions are necessary. W.R. Grace is the former operator of the Site. This removal action is anticipated to be enforcement-lead pursuant to an Administrative Order on Consent (AOC) with W.R. Grace.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: TNN000410405
Removal Category: Time-Critical Removal

A. Site Description

4061 *Kuo*
The Site is located at ~~4601~~ Powell Avenue, Nashville, Davidson County, Tennessee 37204. Vermiculite ore was processed at the Site. Currently, the Site is owned by the Stirton Oman Trust and leased to a commercial construction company. The Site consists of one large (main) building with a large paved parking and vehicle access area adjacent to the eastern side of the building

Internet Address (URL) • <http://www.epa.gov>

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and an area of vermiculite and asbestos containing soils at the back of the Site. The Site is mostly fenced with unpaved strips of land existing at the margins surrounding the building and paved area. Ditches or creeks border the northern, western, and southern perimeters of the Site.

A removal site evaluation (RSE) has been conducted at the Site by the U.S. Environmental Protection Agency in response to an agency-wide initiative to investigate vermiculite facilities that received vermiculite ore from the W.R. Grace vermiculite mine in Libby, Montana. The Site, also referenced as GAO 149, was the former location of a vermiculite expansion (or exfoliation) plant. According to W.R. Grace and other sources, W.R. Grace leased the GAO 149 Site for approximately 20 years, beginning sometime in the 1960s. The Zonolite Company also operated an expansion facility for a period of time. In total the facility operated between 1952 and 1989. The GAO 149 site closed as an expansion facility in 1989, at which time, all equipment, including two storage silos were removed from the Site. W.R. Grace shipping records indicate that between 15,156 and 44,199 tons of vermiculite ore or vermiculite concentrate from the W.R. Grace vermiculite mine in Libby, Montana were shipped to the GAO 149 Site in Nashville, Davidson County, Tennessee.

1. Removal Site Evaluation

On February 4 and 5, 2010, EPA Region 4 and EPA's Superfund Technical Assessment and Response Team (START) contractor conducted aggressive indoor air, activity based sampling (ABS), and bulk material sampling at the Site. In addition, EPA and START conducted a follow-up site visit on March 9, 2011 and on February 1, 2012.

On February 5, 2010, aggressive air sampling was conducted inside the main building at the Site, specifically in the open warehouse space that comprises the majority of the interior of the building. Bulk material sampling was also conducted within the building. The results for the seven aggressive indoor air samples that were analyzed range between non-detect, $9.9\text{E-}04$ s/cc, $5.0\text{E-}03$ s/cc, and $1.1\text{E-}03$ s/cc total amphibole asbestos for all phase contrast microscopy equivalent (PCME) structures listed. These results are below the Occupational Safety and Health Administration's Permissible Exposure Level. The results for the interior bulk material sample taken revealed that asbestos was not detected.

ABS air sampling was conducted in the exterior areas of the Site to simulate human exposure to asbestos during typical site activities. Two rounds of ABS air sampling were planned for February 4, 2010, the first day of the two-day field sampling event at the Site. The first round, involving a simulated raking activity was successfully completed after being conducted for a period of 120 minutes. The second round, involving a simulated sweeping activity was cancelled early in the activity (about 20 minutes after it started) due to the occurrence of rain. As a result, only one round of ABS air samples were successfully collected and submitted for laboratory analysis. A bulk material sample was collected from within the activity area after ABS air sampling was completed. The ABS activity area was located along the western wall of the Site's main building, near the building's southwestern corner. The activity area was bordered to the west by a fence, beyond which lays a creek. The area for ABS air sampling was chosen because it was located in an area that was suspected of having been involved in vermiculite unloading, loading, and storage operations (former rail spur) during the Site's tenure as a vermiculite expansion plant. Evidence for this included a former railroad spur that ran along the western side of the main building. In addition, the remnant of a concrete trench that

appeared to contain the remains of a below ground conveyor system was located just south of the activity area (also within the area where the former railroad spur was located); and three circular, concrete structures that may have been the foundations for silos were located near the activity area to the southeast.

A six-point composite bulk material sample of debris and soil was collected from within the activity area after completion of ABS air sampling.

Two additional bulk material samples were also collected in the same area during the February 2010 field sampling event at the Site.

The results for the ABS perimeter upwind high volume field duplicate air samples that were analyzed (G149-AB1-PH-02 and G149-AB1-PH-02-DUP) revealed non-detects for all PCME structures listed. In addition, the results for two of the three ABS perimeter downwind high volume air samples that were analyzed (G149-AB1-PH-04 and G149-AB1-PH-08) also revealed non-detects for all PCME structures listed. The results for ABS perimeter downwind high volume air sample G149-AB1-PH-06, however, revealed positive PCME results for total asbestos (9.8E-04 s/cc), total amphibole (9.8E-04 s/cc), and Libby amphibole (9.8E-04 s/cc).

The results for bulk material sample G149-AB1-B-12 revealed that asbestos was detected. The results for the fraction of the sample greater than 75 μm indicate that 0.5 percent of asbestos identified as actinolite was detected. The results for the fraction of the sample less than 75 μm indicate that a trace of asbestos, also identified as actinolite, was detected. The positive asbestos results for this bulk material sample are consistent with the positive PCME asbestos results for air sample G149-AB1-PH-06 collected during the ABS air sampling.

The results for the additional bulk material sample G149-BS-13 indicate that asbestos was not detected. The results for bulk material sample G149-BS-26 revealed that asbestos was detected. The results for the fraction of the sample greater than 75 μm indicate that 0.75 percent of asbestos identified as actinolite was detected. The results for the fraction of the sample less than 75 μm indicate that a trace of asbestos, also identified as actinolite, was detected.

On-Scene Coordinator (OSC) Stilman and START returned to the Site in March of 2011 and February 2012. During the March 2011 Site visit, EPA and START conducted a limited walkthrough of the Site to determine if Site conditions had changed. Despite reported flooding in the area, general site conditions appeared similar to those existing during the February 2010 sampling event.

During the February 2012 Site visit, OSC Stilman and START conducted a more detailed survey, based on the presence of asbestos above 0.25 percent in the western portion of the Site and the limited number of ABS samples taken during the February 2010 sampling event. OSC Stilman and START collected bulk material grab samples of soil and debris at eight separate locations located within the northern and western portions of the Site.

Of the bulk material samples collected during the February 2012 sampling event, those along the northern and north-western boundary of the Site were non-detect for asbestos.

In addition, the analytical results (by point count analysis) for the three samples (G149-BS-33, G149-BS-37, and G149-BS-38) collected in the northern end of the western perimeter of the GAO 149 site all indicate that less than 0.25 percent asbestos identified as tremolite was detected.

The bulk material samples collected along the southwestern edge of the property discovered 3.0%, 1.5 % and 0.25% asbestos. Bulk material sample G149-BS-34 (3.0% PC and 1.5% VE tremolite PCME collected on February 1, 2012) was collected from within the activity area of ABS Round 1 conducted in February 2010. In addition, the bulk material grab sample G149-BS-39 0.25 % PCME collected on February 1, 2012 was collected near the outfall of the concrete trench, very close to where bulk material composite sample G149-BS-26 was collected in February 2010 (0.75% asbestos PCME.)

2. Physical Location

The Site is located at 4601 Powell Avenue, Nashville, Davidson County, Tennessee 37204. The geographic coordinates for the Site are latitude 36.095584 degrees north and longitude 86.760519 degrees west. The Site is located about 4.5 miles south-southeast of downtown Nashville, Tennessee. The immediate vicinity of the site consists of industrially- and commercially-developed areas. The Radnor Yards, a large railroad yard, is located about 1,000 feet southeast of the Site. The Site is bordered to the east by a driveway and commercial business, both of which are located within the Stirton Oman Trust-owned parcel shared with the Site. The Site is bordered to the south by a strip of wooded land with a ditch; beyond this is a commercial business. To the west the Site is bordered by a strip of wooded land and a small creek; beyond this is railroad line. The Site is bordered to the north by a strip of wooded land with a ditch, beyond which is a large open area used for outdoor parking and storage. Residential neighborhoods exist to the west and southwest of the Site, with the nearest residences located less than 1,000 feet west of the site. Large neighborhoods are also located less than one mile to the east-northeast and south-southeast of the Site. The nearest school, Father Ryan High School is located about 1,500 feet northwest of the Site. According to 2000 U.S. Census Population and Housing Summary data the Site is located in a low income area.

The Site consists of one large (main) building, one smaller out-building and the parcel is partially paved with the remainder of the Site grass-covered. A former railroad spur runs along the western perimeter of the Site's main building. The main building has an open porch or loading dock at its south end; the interior of the building is partitioned into offices, production areas, and storage areas, and includes two loft spaces.

3. Site Characteristics

The Site occupies approximately 1.5 acres. The former expansion building is still on-site and is occupied by a commercial building contractor. The main building at the Site is about 13,000 square feet in size and was built in 1966. A concrete pad with a concrete ramp leading down to the paved parking area is located at the building's southern perimeter, and a small, concrete block shed is situated on this pad next to the south wall of the building. Three circular, concrete structures are present on the concrete pad located at the building's southern perimeter. These structures are remnants of silos associated with vermiculite processing. A railroad spur also existed at the Site, and was located

along the western side of the main building. An area of vermiculite containing soil is located in the former railroad spur area (western area) of the Site. Sample results as high as 3.0 percent asbestos identified as tremolite asbestos was detected.

Figures showing the Site Location and Layout and Sampling figures are included in Attachment 2.

Based on information from the EPA and W.R. Grace files, the Site is the location of a former vermiculite processing plant that operated between 1952 and 1989. W.R. Grace shipping records indicate that at least 15,156 tons of vermiculite concentrate from the W.R. Grace vermiculite mine in Libby, Montana were shipped to the Site in Nashville, Davidson County, Tennessee.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Asbestos is a hazardous substance as defined by CERCLA 101 (14) and listed in the Title 40 of the Code of Federal Regulations (CFR), Section 302.4. There has been a release of asbestos at the Site.

The EPA's Framework for Investigating Asbestos-Contaminated Superfund Sites (EPA 2008) provides a step-wise process for evaluating risks associated with asbestos. The GAO149 Site, Nashville, Davidson County, Tennessee is known to have used vermiculite concentrate from Libby, Montana. The vermiculite concentrate is known to be contaminated with a distinct form of asbestos. Though air samples collected during the Site investigation contain low levels of asbestos and they are not considered to exceed applicable screening levels, the identification of the "Libby amphibole" form of asbestos in bulk soil samples as high as 3.0 percent pose a potential health risk. The samples were collected from a former railroad spur located on the western boundary of the property. Identification of the Libby amphibole in environmental samples and the visual presence of vermiculite beneath the land surface is evidence that a release has occurred.

5. National Priorities List (NPL) Status

The Site is not on the NPL, and it is unlikely to be placed on the NPL in the future.

6. Maps, pictures, and other graphic representations

Maps and figures are attached to this Action Memorandum.

B. Other Actions to Date

1. Previous Actions

File material indicates that the EPA conducted a Site inspection of the Site in June 2000 and follow-up visits to the Site in March 2001 and March 2009. Prior to that, W. R. Grace removed vermiculite processing equipment from the Site.

Other than the activities mentioned above, no other government or private actions have been taken to investigate or mitigate the threats posed by the Site.

2. Current Actions

There are no current actions being taken by any party to address the threats posed by the Site.

C. State and Local Authorities' Role

1. State and Local Actions to Date

The EPA continues to coordinate activities with the State of Tennessee Department of Environmental Control (TDEC). TDEC leads oversight and coordination at mining Sites, while the EPA has the lead for vermiculite processing facilities associated with the Libby, Montana mine. TDEC personnel continue to assist the EPA with the ongoing investigation of the Site.

2. Potential for Continued State and Local Response

It is not anticipated that TDEC will perform any further response activities at the Site. The Emergency Response and Removal Branch (ERRB) will continue to coordinate with state and local agencies during the removal activities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Asbestos present in Site soils pose the following threats to public health or welfare as listed in Section 300.415 (b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP):

Section 300.415 (b)(2)(i) Actual or potential exposure to nearby human populations, or the food chain from hazardous substances pollutants or contaminants; A review of the EPA analytical data and the Human Health Risk Assessment for the Vermiculite Exfoliation Plant GAO 149 Site, Nashville, Tennessee (February 2012) was conducted by the EPA's Technical Service Section (TSS). TSS discovered that while the ABS sample results did not report detectable concentrations of airborne asbestos, a perimeter air sample near the ABS location did have a detection. Soil samples collected from the ABS area and adjacent location west of the building were discovered to contain asbestos, with soil samples collected in the second round of sampling in the original ABS area confirming the presence of asbestos greater than one percent.

EPA's TSS has recommended that based upon the confirmed presence of asbestos in the soil in the original ABS location and adjacent soil west of the building, soil in this area should be removed to limit future exposure to workers on the property.

The relationship between the concentration of asbestos in a source material (soil/asbestos-containing vermiculite) and the concentration of fibers in air that result when the source is disturbed is very complex and depends on a broad range of variables. No method has been found

to predict the concentration of asbestos in air reliably as it relates to a measured concentration of asbestos in the source material. A detectable concentration of asbestos in source material may, when disturbed, result in a high concentration of airborne asbestos that could pose a health risk.

Section 300.415 (b)(2)(iv) High levels of hazardous substances or pollutants or contaminants in the soils largely at or near the surface, that may migrate; The bulk material samples collected in 2012 along the south western edge of the property found 3.0%, 1.5% and 0.25% asbestos. Bulk material sample G149-BS-34 (3.0% PC and 1.5% VE tremolite PCME collected on February 1, 2012) was collected from within the activity area of the ABS Round 1 conducted in February 2010. In addition, the bulk material grab sample G149-BS-39 (0.25 % PCME collected on February 1, 2012) was collected near the outfall of the concrete trench, very close to where bulk material composite sample G149-BS-26 was collected in February 2010 (0.75% PCME). These soil samples were collected at the surface. If the soils were to be graded or the vegetation in the area was removed it would create the potential for migration to off-site locations.

Section 300.415 (b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; Periodic rains and drought conditions may contribute to the potential for migration of asbestos-containing soils. Soil erosion during rain events followed by wind action during particularly dry conditions, can lead to migration of fine asbestos fibers from contaminated surface soil.

Section 300.415 (b)(2)(vii) The availability of other appropriate federal or state response mechanisms to respond to the release; TDEC has indicated that the State lacks available funds to implement a cleanup at the Site in a timely manner. If the EPA Region 4 does not respond to this release, no other federal agency, state or local government has the capacity to respond in a time-critical manner.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The following actions will be implemented by W.R. Grace under an AOC:

- a. Coordinate with the OSC to assess the layout of the Site and determine required Site activities, equipment, personnel and logistics, and develop a Removal Action Work Plan that details plans for the excavation.
- b. Determine the full extent of asbestos contaminated soil. The contaminated area is estimated to be approximately 150 feet by 30 feet.

- c. Excavate and remove areas of asbestos contaminated soil and debris with confirmatory sampling. Depending on the results of the extent of contamination survey, this activity may include removal of additional contaminated soils along the back edge of the property.
- d. Backfill excavated areas with clean fill material, as necessary. In areas where asbestos is present at depths greater than two feet below the natural grade, place an appropriate warning barrier, cover such areas with clean soil to prevent direct contact with contaminated soils and coordinate with the property owner a plan for post-removal site control.
- e. Dispose of contaminated soils at an approved facility.
- f. Suppress dust and control erosion during the removal action.
- g. Monitor and sample as necessary personal and ambient air during the removal activities.
- h. Restore disturbed areas in a manner that prevents sediment runoff onto adjacent properties and is consistent with future land-use. Restoration shall be coordinated with the landowners.

2. Contribution to Remedial Performance

The proposed removal action is warranted to address the threats discussed in Section III, which meet the NCP Section 300.415 (b) (2) removal criteria. The removal action contemplated in this Action Memorandum would be consistent with any remedial action.

3. Engineering Evaluation/Cost Analysis (EE/CA)

This proposed action is time-critical and does not require an EE/CA.

4. Applicable or Relevant and Appropriate Requirements (ARAR)

On-Site removal actions conducted under CERCLA are required to attain ARARs to the extent practicable, considering the exigencies of the situation. Off-site removal activities need only comply with all applicable federal and state laws. This cleanup is being conducted as a time-critical removal action.

Federal ARARs

The following has been identified as a potential Federal ARAR, EPA's NESHAP regulation, 40 CFR Part 61, which discusses reducing off-site migration of asbestos during clean-up activities. Compliance with this rule may be relevant and appropriate because this Action will involve removing material containing greater than one percent asbestos.

State ARARs

A letter was sent to the State of Tennessee Department of Environmental Control on April 12, 2012, requesting identification of state rules and regulations that may be applicable or relevant and appropriate to this removal action.

The OSC will continue to coordinate with state officials to identify state ARARs and will evaluate such ARARs in accordance with the NCP.

All waste transferred off-site will also comply with the CERCLA Off-Site Rule (40 CFR 300.440).

5. Project Schedule

The EPA is currently negotiating with W.R. Grace to undertake the removal action as outlined in this memorandum. The project schedule will be incorporated in the work plan submitted to the EPA for approval under the AOC.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If this response action is significantly delayed or not taken, the potential for disturbances that result in additional release will continue, increasing the potential for migration of asbestos and increasing the possibility of exposure to the public and the environment.

VII. OUTSTANDING POLICY ISSUES

Asbestos removal actions for "Libby amphibole" type material have been conducted by the EPA at other locations around the nation. This removal action does not set a precedent, but is considered nationally significant based on the EPA's policy regarding CERCLA actions at Asbestos sites. This action is part of an agency-wide initiative to investigate vermiculite facilities that received vermiculite ore from the W.R. Grace vermiculite mine in Libby, Montana. Because of the potentially broad impact of vermiculite ore with high levels of amphibole asbestos mined from the Libby, Montana deposits, the EPA Region 4 is coordinating with the EPA Headquarters and other Regions to assure a consistent approach to vermiculite issues. There are no outstanding policy issues related to the proposed Removal Actions at this Site.

VIII. ENFORCEMENT

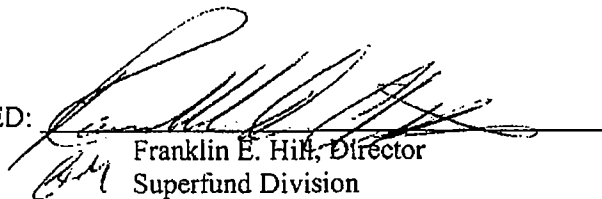
The EPA anticipates that W.R. Grace will both fund and conduct the removal action. W.R. Grace is the former operator of the Site. The EPA has not identified any other potentially responsible party (PRP), and it is expected that W.R. Grace will be the sole PRP for this Site. The EPA and W.R. Grace are currently negotiating the terms of the AOC for conducting the removal. Should negotiations with W.R. Grace fail to result in an AOC, the EPA may decide to take a fund-lead removal action. See Attachment, "Enforcement Confidential Addendum," for more detailed information.

IX. RECOMMENDATION

This decision document represents the selected removal action for the GAO 149 Vermiculite Site located in Nashville, Davidson County, Tennessee developed in accordance with CERCLA as amended, and not inconsistent with the National Contingency Plan (NCP). The document is based on the

Administrative Record for the Site. Conditions at the Site meet the NCP Section 300.415 (b) criteria for a time-critical removal action.

APPROVED: _____


Franklin E. Hill, Director
Superfund Division

DATE: _____

8/7/12

DISAPPROVED: _____

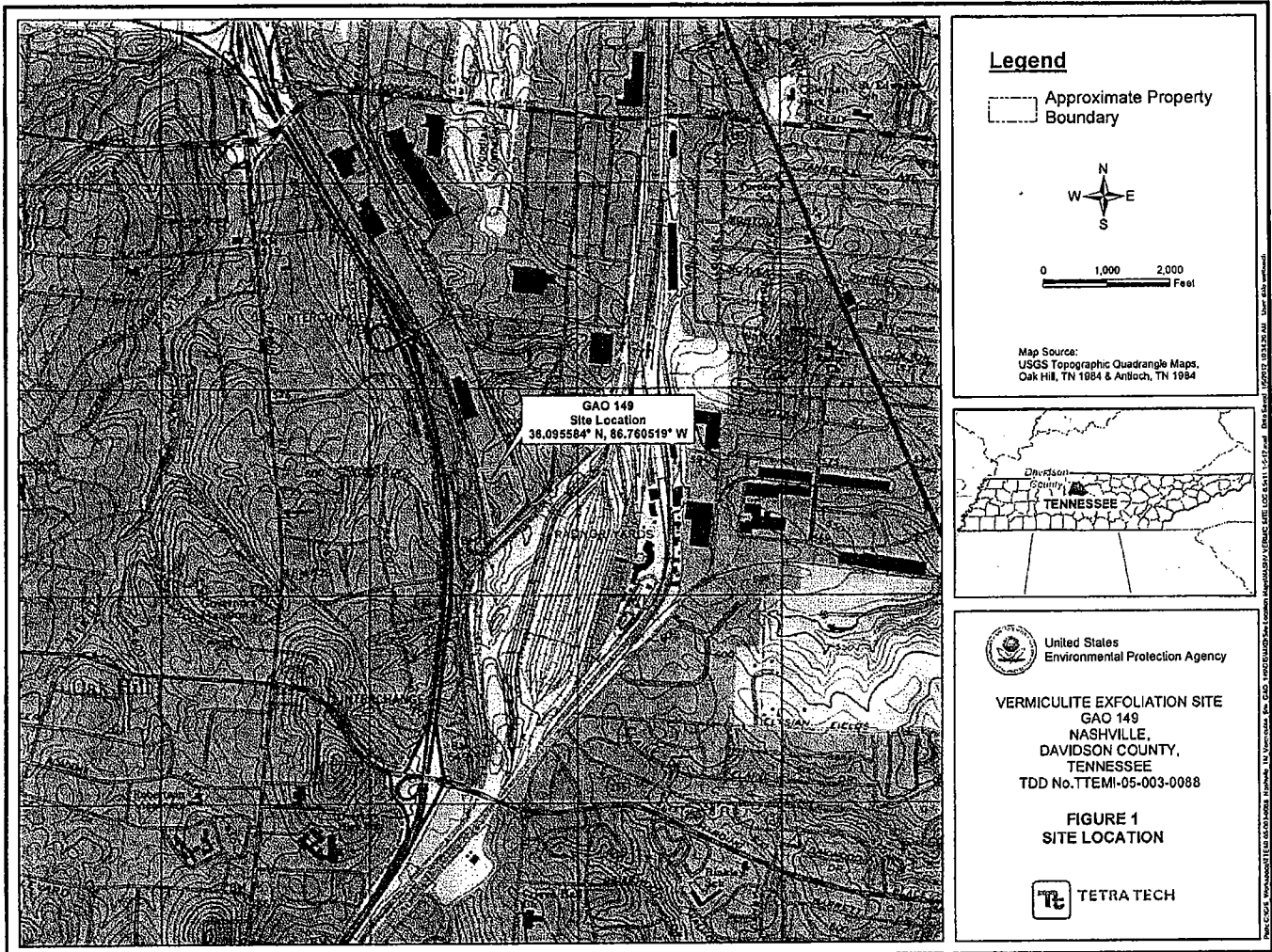
Franklin E. Hill, Director
Superfund Division

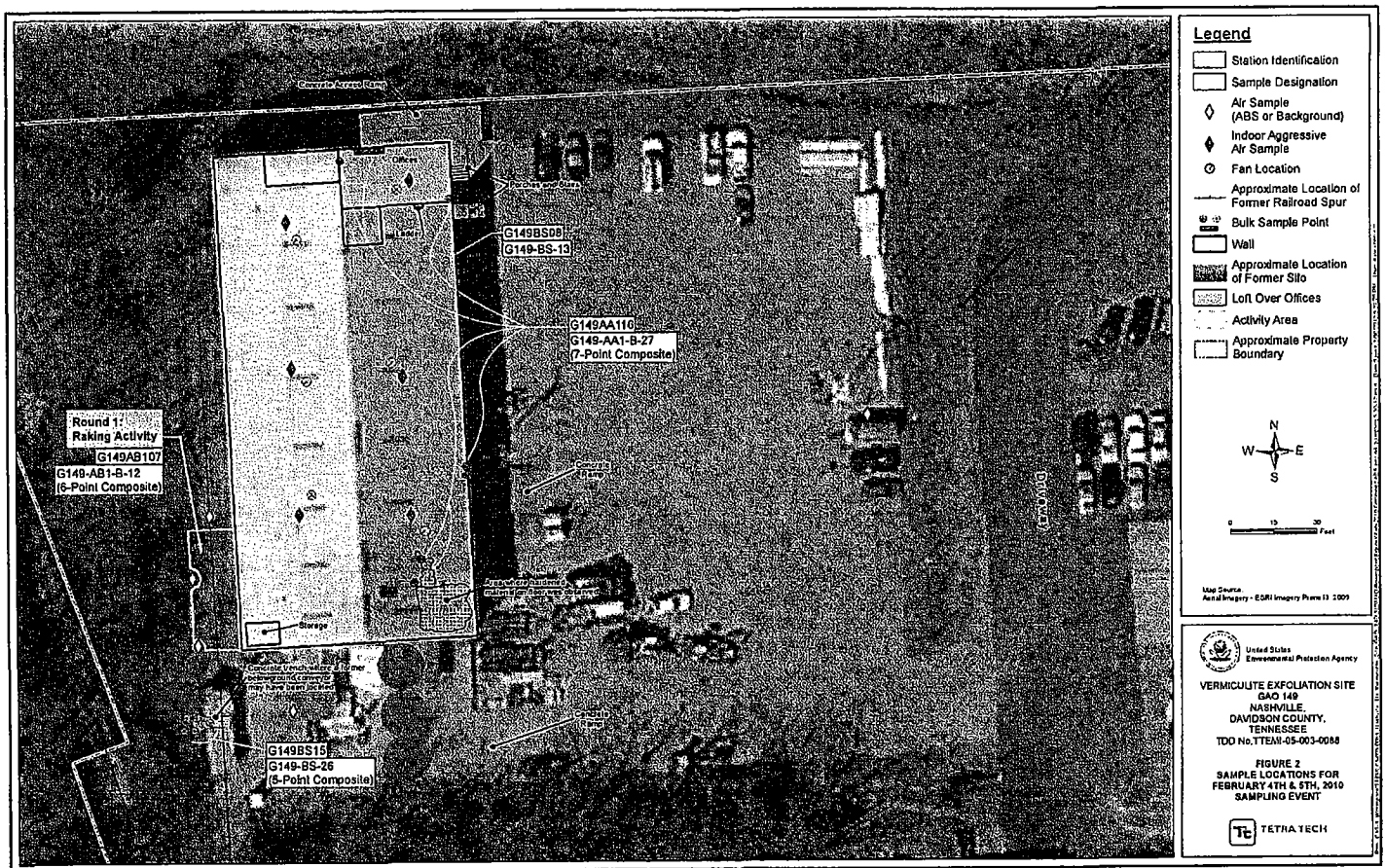
DATE: _____

Attachments

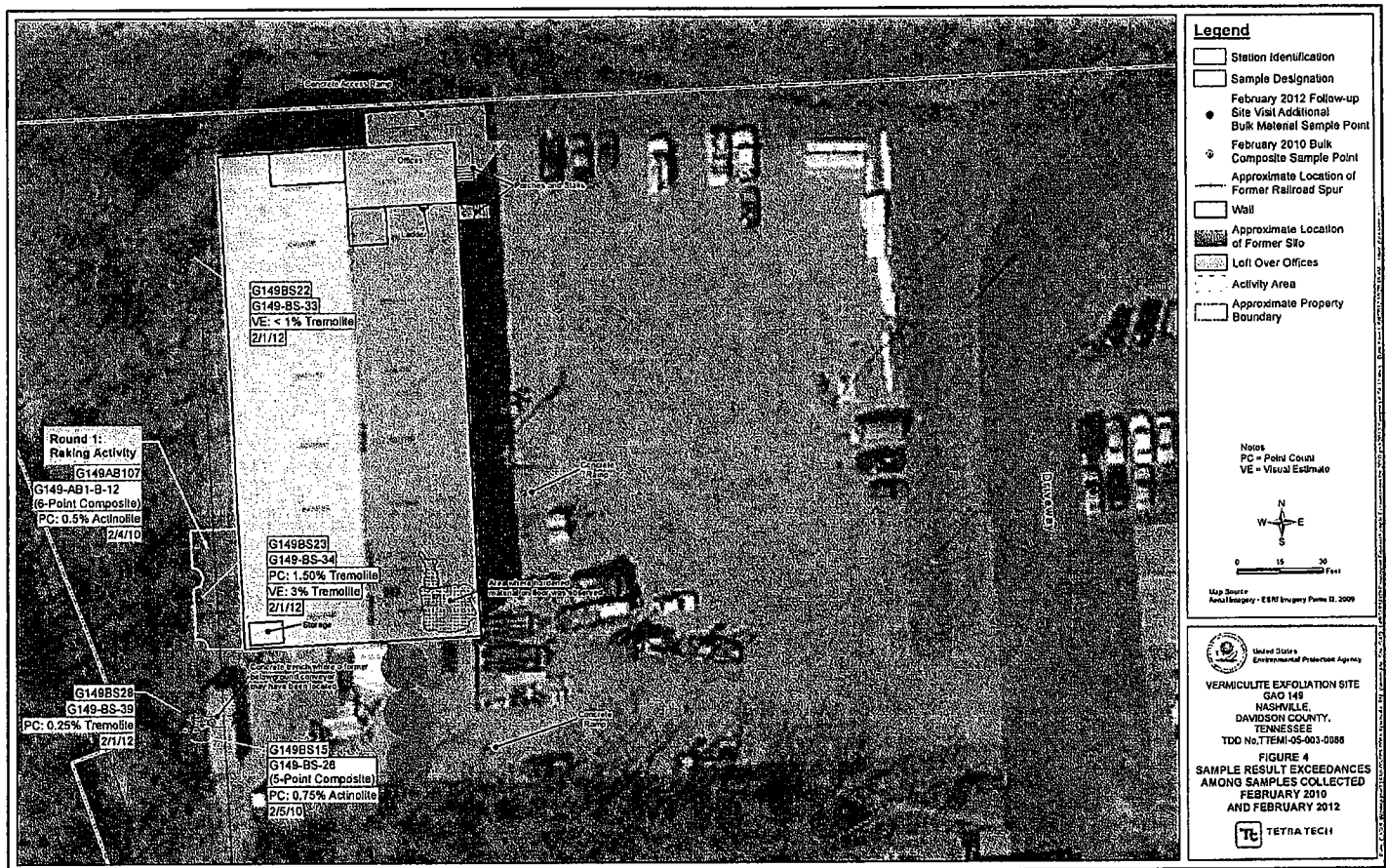
ATTACHMENT I
ENFORCEMENT CONFIDENTIAL ADDENDUM

ATTACHMENT 2
FIGURES









Appendix B

Cost Summary

Report Date: 12/06/2012

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IFMS Reconciliation Pending

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VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

NARRATIVE COST SUMMARY	Section 1
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REGIONAL PAYROLL COSTS	Section 3
REGIONAL TRAVEL COSTS	Section 4
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TETRA TECH EM INC. (EPW05054)	Section 5
MISCELLANEOUS (MIS) COSTS	Section 6
EPA INDIRECT COSTS SUMMARY	Section 7
EPA INDIRECT COSTS	Section 8

Report Date: 12/06/2012

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IFMS Reconciliation Pending

Narrative Cost Summary

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

1. The United States Environmental Protection Agency has incurred at least \$19,839.40 for Regional Payroll Costs.
2. The United States Environmental Protection Agency has incurred at least \$2,402.25 for Regional Travel Costs.
3. The United States Environmental Protection Agency has incurred costs of at least \$74,777.12 for SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM (START) contract expenditures. The total represents the amount spent under the TETRA TECH EM INC. contract.
4. The United States Environmental Protection Agency has incurred costs of at least \$9,737.49 for Miscellaneous Expenses.
5. The United States Environmental Protection Agency has incurred at least \$53,001.10 for Indirect Costs.

Total Site Costs:

\$159,757.36

Report Date: 12/06/2012

Section 2 - Page 1 of 1

IFMS Reconciliation Pending

Itemized Cost Summary

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

REGIONAL PAYROLL COSTS	\$19,839.40
REGIONAL TRAVEL COSTS	\$2,402.25
SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM (START)	
TETRA TECH EM INC. (EPW05054)	\$74,777.12
MISCELLANEOUS COSTS (MIS)	\$9,737.49
EPA INDIRECT COSTS	\$53,001.10
Total Site Costs:	<u>\$159,757.36</u>

Report Date: 12/06/2012

Section 3 - Page 1 of 3

IFMS Reconciliation Pending

Regional Payroll Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Hours</u>	<u>Payroll Costs</u>
BESWICK, KEVIN T.	2012	14	3.00	250.28
ATTORNEY		16	1.00	83.43
		20	8.00	728.86
		21	6.00	500.54
		25	5.00	417.13
		26	11.00	917.65
	2013	02	4.00	333.69
		03	2.00	165.98
			<u>40.00</u>	<u>\$3,397.56</u>
CERON, LEONARDO	2010	10	43.00	2,450.53
ENVIRONMENTAL SCIENTIST			<u>43.00</u>	<u>\$2,450.53</u>
CLAY, DAVID K.	2012	26	0.25	21.84
ATTORNEY-ADVISOR (GENERAL)			<u>0.25</u>	<u>\$21.84</u>
CROWE, MICHAEL J.	2010	10	24.00	937.91
			<u>24.00</u>	<u>\$937.91</u>
EICHINGER, KEVIN	2012	18	16.00	887.61
Industrial Hygienist (OSC)		19	14.00	776.66
		20	10.00	554.75
		21	15.00	832.13
		22	3.00	158.07
		23	7.00	388.33
		24	12.00	671.44
		25	3.00	166.43
		26	4.00	221.90
		27	1.00	55.48
	2013	01	3.00	166.42
		02	4.00	221.90
		03	2.00	110.96
			<u>94.00</u>	<u>\$5,212.08</u>
FREDERICK, TIMOTHY A.	2012	10	5.00	307.12

Report Date: 12/06/2012

Section 3 - Page 2 of 3

IFMS Reconciliation Pending

Regional Payroll Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Hours</u>	<u>Payroll Costs</u>
ENVIRONMENTAL SCIENTIST	2012	11	8.00	491.38
			13.00	\$798.50
NOAH, GREGORY W.	2010	10	28.00	1,179.11
ENVIRONMENTAL SCIENTIST		13	0.00	0.00
			28.00	\$1,179.11
RIVERA-BARRETO, FERNANDO	2012	15	5.00	290.58
ENVIRONMENTAL ENGINEER		17	2.00	116.23
		20	7.00	406.81
		21	5.00	290.58
		22	2.00	116.23
		26	4.00	232.47
	2013	01	4.00	232.47
			29.00	\$1,685.37
STILMAN, TERRY	2012	10	14.00	1,101.86
ENVIRONMENTAL SCIENTIST		14	22.00	1,743.78
		19	4.00	314.19
		21	3.00	237.80
			43.00	\$3,397.63
TURNER, NARDINA	2010	10	0.25	15.99
ENVIRONMENTAL SCIENTIST		15	1.25	80.03
		18	0.50	32.87
		19	0.25	16.42
		21	0.25	16.38
		22	0.50	32.84
		23	0.25	16.77
		24	0.25	16.43
	2011	13	0.75	49.69
		14	0.25	16.57
		15	1.25	82.79
		16	0.50	33.12
		19	0.25	16.57
	2012	10	0.25	16.62
		12	0.25	16.62
		13	0.25	16.62

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IFMS Reconciliation Pending

Regional Payroll Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Hours</u>	<u>Payroll Costs</u>
TURNER, NARDINA	2012	14	0.50	33.24
		15	1.25	83.10
		16	0.25	16.62
		17	0.25	16.62
		20	0.50	33.24
		21	0.25	16.62
		23	0.75	49.86
		24	0.25	16.62
		01	0.25	16.62
	2013		11.50	\$758.87
Total Regional Payroll Costs			325.75	\$19,839.40

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IFMS Reconciliation Pending

Headquarters Payroll Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Hours</u>	<u>Payroll Costs</u>
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IFMS Reconciliation Pending

Regional Travel Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Traveler/Vendor Name</u>	<u>Travel Number</u>	<u>Treasury Schedule</u>	<u>Treasury Schedule Date</u>	<u>Travel Costs</u>
BANK ONE	0PJFMD	ACHC09177	06/30/2009	302.81
	0Q73CD	ACHC10049	02/22/2010	782.42
				<u>\$1,085.23</u>
CROWE, MICHAEL J.	0Q84ED	ACHA10042	02/16/2010	405.79
				<u>\$405.79</u>
NOAH, GREGORY W. ENVIRONMENTAL SCIENTIST	0Q81MQ	ACHA10053	02/24/2010	407.55
				<u>\$407.55</u>
STILMAN, TERRY	0S9IB3	AMP120025	02/09/2012	239.82
ENVIRONMENTAL SCIENTIST	0SDTBK	AMP120064	04/04/2012	263.86
				<u>\$503.68</u>
Total Regional Travel Costs				<u><u>\$2,402.25</u></u>

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IFMS Reconciliation Pending

Headquarters Travel Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Traveler/Vendor Name</u>	<u>Travel Number</u>	<u>Treasury Schedule</u>	<u>Treasury Schedule Date</u>	<u>Travel Costs</u>
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IFMS Reconciliation Pending

Contract Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM (START)

Contractor Name: TETRA TECH EM INC.

EPA Contract Number: EPW05054

Delivery Order Information	<u>DO #</u>	<u>Start Date</u>	<u>End Date</u>
	3	12/26/2009	08/24/2012

Project Officer(s): JONES, SYLVIA

Dates of Service: From: 12/26/2009 To: 08/24/2012

Summary of Service: TECHNICAL ASSISTANT TEAM PROP-SUB(REDI)

Total Costs: \$74,777.12

<u>Voucher Number</u>	<u>Voucher Date</u>	<u>Voucher Amount</u>	<u>Treasury Schedule Number and Date</u>	<u>Site Amount</u>	<u>Annual Allocation</u>
T3-06-BY-47	01/27/2010	113,025.07	R0491 03/16/2010	4,808.91	329.61
T3-06-BY-48	02/24/2010	131,134.43	R0574 04/09/2010	18,653.45	1,278.54
T3-06-BY-49	03/31/2010	178,349.95	R0689 05/14/2010	6,048.12	414.55
T3-06-BY-50	04/28/2010	122,169.31	R0795 06/18/2010	1,914.89	131.25
T3-06-BY-51	05/26/2010	112,490.04	R0887 07/15/2010	296.02	20.29
T3-06-BY-52	06/30/2010	168,384.95	R0997 08/19/2010	107.03	7.34
T3-06-BY-53	07/28/2010	42,261.62	R0A81 09/14/2010	867.62	59.47
T3-06-BY-54	09/01/2010	89,610.68	R1066 10/21/2010	639.78	43.85
T3-06-BY-55	10/06/2010	104,167.58	R1154 11/22/2010	48.00	3.29
5054-T3-06-BY-6	08/31/2011	93,656.49	ACHC11270 09/29/2011	18.92	1.57
5054-T3-06-BY-6	11/02/2011	141,018.22	AVC110086 12/21/2011	1,590.86	132.05
T3-06-BY-69	11/30/2011	100,215.26	AVC120013 01/18/2012	2,328.21	193.25
T3-06-BY-70	01/04/2012	128,946.60	AVC120043 02/22/2012	9,622.43	798.71
T3-06-BY-71	02/01/2012	144,431.67	AVC120068 03/26/2012	10,213.45	847.77
T3-06-BY-72	02/29/2012	109,661.24	AVC120086 04/18/2012	1,268.32	105.28
T3-06-BY-73	04/04/2012	141,910.66	AVC120111 05/23/2012	5,419.34	449.83
T3-06-BY-74	05/02/2012	83,316.40	AVC120126 06/14/2012	469.48	38.97
T3-06-BY-75	05/30/2012	124,984.74	AVC120153 07/24/2012	1,984.90	164.76
T3-06-BY-76	07/04/2012	120,524.74	AVC120167 08/13/2012	3,168.48	263.00
T3-06-BY-78	08/29/2012	182,533.66	AVC130013 10/11/2012	23.57	1.96
Total:				<u>\$69,491.78</u>	<u>\$5,285.34</u>

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IFMS Reconciliation Pending

Contract Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM (START)

Contractor Name: TETRA TECH EM INC.
 EPA Contract Number: EPW05054
 Delivery Order Information DO # Start Date End Date
 3 12/26/2009 08/24/2012
 Project Officer(s): JONES, SYLVIA
 Dates of Service: From: 12/26/2009 To: 08/24/2012
 Summary of Service: TECHNICAL ASSISTANT TEAM PROP-SUB(REDI)
 Total Costs: \$74,777.12

<u>Voucher Number</u>	<u>Schedule Number</u>	<u>Rate Type</u>	<u>Annual Allocation Rate</u>
T3-06-BY-47	R0491	Final	0.068542
T3-06-BY-48	R0574	Final	0.068542
T3-06-BY-49	R0689	Final	0.068542
T3-06-BY-50	R0795	Final	0.068542
T3-06-BY-51	R0887	Final	0.068542
T3-06-BY-52	R0997	Final	0.068542
T3-06-BY-53	R0A81	Final	0.068542
T3-06-BY-54	R1066	Final	0.068542
T3-06-BY-55	R1154	Final	0.068542
5054-T3-06-BY-66	ACHC11270	Provisional	0.083005
5054-T3-06-BY-68	AVC110086	Provisional	0.083005
T3-06-BY-69	AVC120013	Provisional	0.083005
T3-06-BY-70	AVC120043	Provisional	0.083005
T3-06-BY-71	AVC120068	Provisional	0.083005
T3-06-BY-72	AVC120086	Provisional	0.083005
T3-06-BY-73	AVC120111	Provisional	0.083005
T3-06-BY-74	AVC120126	Provisional	0.083005
T3-06-BY-75	AVC120153	Provisional	0.083005
T3-06-BY-76	AVC120167	Provisional	0.083005
T3-06-BY-78	AVC130013	Provisional	0.083005

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IFMS Reconciliation Pending



Financial Cost Summary for the Contract Lab Program

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

CONTRACT LAB PROGRAM (CLP) COSTS

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IFMS Reconciliation Pending

Miscellaneous (MIS) Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

Miscellaneous (MIS) Costs

Total Costs: \$9,737.49

Procurement Number	Voucher Number	Voucher Date	Voucher Amount	Treasury Schedule Number and Date	Site Amount	Description
***CONTRACT NAME NOT FOUND ***						
EP094000116	2200018684	08/03/2010	0.00	K3481 08/03/2010	5.18	
EP094000116	2200018684	08/03/2010	0.00	K3479 08/03/2010	720.00	
EP094000116	2200018684	08/03/2010	0.00	K3481 08/03/2010	74.82	
EP094000116			0.00		09/05/2012	-0.00
EP104000059	2200016669	01/19/2011	0.00	L0990 01/19/2011	4,000.00	
EP114000095			0.00		05/08/2012	1,256.00
EPW10033	A3	04/14/2011	7,381.19	R1726 05/11/2011	1,294.31	QUALITY ASSURANCE SU
EPW10033	A4	05/12/2011	7,532.14	R1827 06/07/2011	991.34	QUALITY ASSURANCE SU
EPW10033	A5	06/13/2011	1,879.00	R1934 07/07/2011	793.93	QUALITY ASSURANCE SU
EPW10033	A6	07/14/2011	898.17	R1A47 08/09/2011	27.54	QUALITY ASSURANCE SU
EPW10033	A16	05/10/2012	2,922.44	AVC120121 06/07/2012	251.78	QUALITY ASSURANCE SU
EPW10033	A17	06/14/2012	1,191.69	AVC120145 07/12/2012	322.59	QUALITY ASSURANCE SU
Vendor Total:					\$9,737.49	
Total Miscellaneous Costs:					\$9,737.49	

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

<u>Fiscal Year</u>	<u>Direct Costs</u>	<u>Indirect Rate(%)</u>	<u>Indirect Costs</u>
2009	302.81	49.52%	149.95
2010	42,128.13	40.97%	17,259.89
2011	8,061.27	55.33%	4,460.31
2012	54,990.48	55.33%	30,426.27
2013	1,273.57	55.33%	704.68
	<u>106,756.26</u>		
Total EPA Indirect Costs			<u>\$53,001.10</u>

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

TRAVEL DIRECT COSTS

<u>Traveler/Vendor Name</u>	<u>Travel Number</u>	<u>Treasury Schedule Date</u>	<u>Travel Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
BANK ONE	0PJFMD	06/30/2009	302.81	49.52%	149.95
			302.81		\$149.95

Total Fiscal Year 2009 Travel Direct Costs:

302.81 \$149.95

Total Fiscal Year 2009:

302.81 \$149.95

PAYROLL DIRECT COSTS

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
CERON, LEONARDO	2010	10	2,450.53	40.97%	1,003.98
			2,450.53		\$1,003.98
CROWE, MICHAEL J.	2010	10	937.91	40.97%	384.26
			937.91		\$384.26
NOAH, GREGORY W.	2010	10	1,179.11	40.97%	483.08
		13	0.00	40.97%	0.00
			1,179.11		\$483.08
TURNER, NARDINA	2010	10	15.99	40.97%	6.55
		15	80.03	40.97%	32.79
		18	32.87	40.97%	13.47
		19	16.42	40.97%	6.73
		21	16.38	40.97%	6.71
		22	32.84	40.97%	13.45
		23	16.77	40.97%	6.87

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

PAYROLL DIRECT COSTS

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
TURNER, NARDINA	2010	24	16.43	40.97%	6.73
			227.73		\$93.30
Total Fiscal Year 2010 Payroll Direct Costs:			4,795.28		\$1,964.62

TRAVEL DIRECT COSTS

<u>Traveler/Vendor Name</u>	<u>Travel Number</u>	<u>Treasury Schedule Date</u>	<u>Travel Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
BANK ONE	0Q73CD	02/22/2010	782.42	40.97%	320.55
			782.42		\$320.55
CROWE, MICHAEL J.	0Q84ED	02/16/2010	405.79	40.97%	166.25
			405.79		\$166.25
NOAH, GREGORY W.	0Q81MQ	02/24/2010	407.55	40.97%	166.98
			407.55		\$166.98
Total Fiscal Year 2010 Travel Direct Costs:			1,595.76		\$653.78

OTHER DIRECT COSTS

<u>Contract, IAG, SCA, Misc.NO</u>	<u>Voucher Number</u>	<u>Treasury Schedule Date</u>	<u>Site Amount</u>	<u>Annual/SMO Allocation Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
EP094000116	2200018684	08/03/2010	673.41	0.00	40.97%	275.90
			46.59	0.00	40.97%	19.09
			5.18	0.00	40.97%	2.12

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

OTHER DIRECT COSTS

Contract, IAG, SCA, Misc.NO	Voucher Number	Treasury Schedule Date	Site Amount	Annual/SMO Allocation Costs	Ind. Rate (%)	Indirect Costs
EP094000116	2200018684	08/03/2010	74.82	0.00	40.97%	30.65
			800.00	0.00		\$327.76
EPW05054	T3-06-BY-47	03/16/2010	4,808.91	329.61	40.97%	2,105.25
	T3-06-BY-48	04/09/2010	18,653.45	1,278.54	40.97%	8,166.14
	T3-06-BY-49	05/14/2010	6,048.12	414.55	40.97%	2,647.76
	T3-06-BY-50	06/18/2010	1,914.89	131.25	40.97%	838.30
	T3-06-BY-51	07/15/2010	296.02	20.29	40.97%	129.59
	T3-06-BY-52	08/19/2010	107.03	7.34	40.97%	46.86
	T3-06-BY-53	09/14/2010	867.62	59.47	40.97%	379.83
			32,696.04	2,241.05		\$14,313.73
Total Fiscal Year 2010 Other Direct Costs:			33,496.04	2,241.05		\$14,641.49
Total Fiscal Year 2010:			42,128.13			\$17,259.89

PAYROLL DIRECT COSTS

Employee Name	Fiscal Year	Pay Period	Payroll Costs	Ind. Rate (%)	Indirect Costs
TURNER, NARDINA	2011	13	49.69	55.33%	27.49
		14	16.57	55.33%	9.17
		15	82.79	55.33%	45.81
		16	33.12	55.33%	18.33
		19	16.57	55.33%	9.17
			198.74		\$109.97
Total Fiscal Year 2011 Payroll Direct Costs:			198.74		\$109.97

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

OTHER DIRECT COSTS

Contract, IAG, SCA, Misc.NO	Voucher Number	Treasury Schedule Date	Site Amount	Annual/SMO Allocation Costs	Ind. Rate (%)	Indirect Costs
EP104000059	2200016669	01/19/2011	4,000.00	0.00	55.33%	2,213.20
			4,000.00	0.00		\$2,213.20
EPW05054	T3-06-BY-54	10/21/2010	639.78	43.85	55.33%	378.25
	T3-06-BY-55	11/22/2010	48.00	3.29	55.33%	28.38
	5054-T3-06-BY-66	09/29/2011	18.92	1.57	55.33%	11.34
			706.70	48.71		\$417.97
EPW10033	A3	05/11/2011	1,294.31	0.00	55.33%	716.14
			-1,294.31	0.00	55.33%	-716.14
			1,294.31	0.00	55.33%	716.14
	A4	06/07/2011	991.34	0.00	55.33%	548.51
	A5	07/07/2011	793.93	0.00	55.33%	439.28
	A6	08/09/2011	27.54	0.00	55.33%	15.24
			3,107.12	0.00		\$1,719.17
Total Fiscal Year 2011 Other Direct Costs:			7,813.82	48.71		\$4,350.34
Total Fiscal Year 2011:			8,061.27			\$4,460.31

PAYROLL DIRECT COSTS

Employee Name	Fiscal Year	Pay Period	Payroll Costs	Ind. Rate (%)	Indirect Costs
BESWICK, KEVIN T.	2012	14	250.28	55.33%	138.48
		16	83.43	55.33%	46.16
		20	728.86	55.33%	403.28
		21	500.54	55.33%	276.95
		25	417.13	55.33%	230.80

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

PAYROLL DIRECT COSTS

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
BESWICK, KEVIN T.	2012	26	917.65	55.33%	507.74
			2,897.89		\$1,603.41
CLAY, DAVID K.	2012	26	21.84	55.33%	12.08
			21.84		\$12.08
EICHINGER, KEVIN	2012	18	887.61	55.33%	491.11
		19	776.66	55.33%	429.73
		20	554.75	55.33%	306.94
		21	832.13	55.33%	460.42
		22	158.07	55.33%	87.46
		23	388.33	55.33%	214.86
		24	671.44	55.33%	371.51
		25	166.43	55.33%	92.09
		26	221.90	55.33%	122.78
		27	55.48	55.33%	30.70
			4,712.80		\$2,607.60
FREDERICK, TIMOTHY A.	2012	10	307.12	55.33%	169.93
		11	491.38	55.33%	271.88
			798.50		\$441.81
RIVERA-BARRETO, FERNANDO	2012	15	290.58	55.33%	160.78
		17	116.23	55.33%	64.31
		20	406.81	55.33%	225.09
		21	290.58	55.33%	160.78
		22	116.23	55.33%	64.31
		26	232.47	55.33%	128.63
			1,452.90		\$803.90

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

PAYROLL DIRECT COSTS

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
STILMAN, TERRY	2012	10	1,101.86	55.33%	609.66
		14	1,743.78	55.33%	964.83
		19	314.19	55.33%	173.84
		21	237.80	55.33%	131.57
			<u>3,397.63</u>		<u>\$1,879.90</u>
TURNER, NARDINA	2012	10	16.62	55.33%	9.20
		12	16.62	55.33%	9.20
		13	16.62	55.33%	9.20
		14	33.24	55.33%	18.39
		15	83.10	55.33%	45.98
		16	16.62	55.33%	9.20
		17	16.62	55.33%	9.20
		20	33.24	55.33%	18.39
		21	16.62	55.33%	9.20
		23	49.86	55.33%	27.59
		24	16.62	55.33%	9.20
			<u>315.78</u>		<u>\$174.75</u>
Total Fiscal Year 2012 Payroll Direct Costs:			<u>13,597.34</u>		<u>\$7,523.45</u>

TRAVEL DIRECT COSTS

<u>Traveler/Vendor Name</u>	<u>Travel Number</u>	<u>Treasury Schedule Date</u>	<u>Travel Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
STILMAN, TERRY	0S9IB3	02/09/2012	239.82	55.33%	132.69
	0SDTBK	04/04/2012	263.86	55.33%	145.99
			<u>503.68</u>		<u>\$278.68</u>
Total Fiscal Year 2012 Travel Direct Costs:			<u>503.68</u>		<u>\$278.68</u>

Report Date: 12/06/2012

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

OTHER DIRECT COSTS

Contract, IAG, SCA, Misc.NO	Voucher Number	Treasury Schedule Date	Site Amount	Annual/SMO Allocation Costs	Ind. Rate (%)	Indirect Costs
EP094000116		09/05/2012	74.82	0.00	55.33%	41.40
			-74.82	0.00	55.33%	-41.40
			673.41	0.00	55.33%	372.60
			-673.41	0.00	55.33%	-372.60
			0.00	0.00		\$0.00
EP114000095		05/08/2012	1,256.00	0.00	55.33%	694.94
			1,256.00	0.00		\$694.94
EPW05054	5054-T3-06-BY-68	12/21/2011	1,590.86	132.05	55.33%	953.29
	T3-06-BY-69	01/18/2012	2,328.21	193.25	55.33%	1,395.12
	T3-06-BY-70	02/22/2012	9,622.43	798.71	55.33%	5,766.02
	T3-06-BY-71	03/26/2012	10,213.45	847.77	55.33%	6,120.17
	T3-06-BY-72	04/18/2012	1,268.32	105.28	55.33%	760.01
	T3-06-BY-73	05/23/2012	5,419.34	449.83	55.33%	3,247.41
	T3-06-BY-74	06/14/2012	469.48	38.97	55.33%	281.33
	T3-06-BY-75	07/24/2012	1,984.90	164.76	55.33%	1,189.41
	T3-06-BY-76	08/13/2012	3,168.48	263.00	55.33%	1,898.64
			36,065.47	2,993.62		\$21,611.40
EPW10033	A16	06/07/2012	251.78	0.00	55.33%	139.31
	A17	07/12/2012	322.59	0.00	55.33%	178.49
			574.37	0.00		\$317.80
Total Fiscal Year 2012 Other Direct Costs:			37,895.84	2,993.62		\$22,624.14
Total Fiscal Year 2012:			54,990.48			\$30,426.27

Report Date: 12/06/2012

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IFMS Reconciliation Pending

EPA Indirect Costs

VERMICULITE EXFO WR GRACE GAO149, NASHVILLE, TN SITE ID = B4 13

Costs from 10/01/1980 to 12/06/2012

PAYROLL DIRECT COSTS

<u>Employee Name</u>	<u>Fiscal Year</u>	<u>Pay Period</u>	<u>Payroll Costs</u>	<u>Ind. Rate (%)</u>	<u>Indirect Costs</u>
BESWICK, KEVIN T.	2013	02	333.69	55.33%	184.63
		03	165.98	55.33%	91.84
			<u>499.67</u>		<u>\$276.47</u>
EICHINGER, KEVIN	2013	01	166.42	55.33%	92.08
		02	221.90	55.33%	122.78
		03	110.96	55.33%	61.39
			<u>499.28</u>		<u>\$276.25</u>
RIVERA-BARRETO, FERNANDO	2013	01	232.47	55.33%	128.63
			<u>232.47</u>		<u>\$128.63</u>
TURNER, NARDINA	2013	01	16.62	55.33%	9.20
			<u>16.62</u>		<u>\$9.20</u>
Total Fiscal Year 2013 Payroll Direct Costs:			<u><u>1,248.04</u></u>		<u><u>\$690.55</u></u>

Contract, IAG, SCA, Misc.NO	Voucher Number	Treasury Schedule Date	Site Amount	Annual/SMO Allocation Costs	Ind. Rate (%)	Indirect Costs
EPW05054	T3-06-BY-78	10/11/2012	23.57	1.96	55.33%	14.13
			23.57	1.96		\$14.13
Total Fiscal Year 2013 Other Direct Costs:			23.57	1.96		\$14.13
Total Fiscal Year 2013:			1,273.57			\$704.68
Total EPA Indirect Costs						\$53,001.10

Appendix C

Map of Site

