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January 18, 2012

**CONFIDENTIAL and
IN CAMERA**

The Honorable Thomas A. Bedell
Circuit Judge of Harrison County
301 West Main Street, Room 321
Clarksburg, West Virginia 26301

**Re: Perrine, et al. v. DuPont, et al.;
Civil Action No. 04-C-296-2 (Circuit Court of Harrison County, West Virginia)
- Requested Court Approval of (i) Property (Soil and House) Clean-Up Request
for Proposals (the "Property Clean-Up RFP"); and (ii) the Property Clean-Up
RFP Bidder List; Our File No. 4609-1 {DD} and 4609-1 {DD-19}**

Dear Judge Bedell:

In accordance with the Court's June 27, 2011 Final Order Establishing Property Remediation (Clean-Up) Program, we have continued to implement this portion of the Settlement, with soil and house testing having begun on November 1, 2011, and with CORE Environmental Services, LLC, the Court-approved testing contractor, working on this portion of the Remediation Program. The testing component of the Remediation Program is projected to be completed on March 31, 2012.

We plan to begin the Clean-Up portion of the Remediation Program on May 15, 2012. In planning the Clean-Up, we must estimate its costs before we can finalize the level of cadmium, arsenic, zinc and lead contamination that justifies cleaning up a given property, as we seek to balance the competing goals of cleaning up contaminated properties and being good stewards of limited resources.

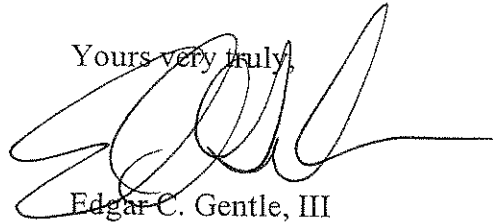
We therefore believe that the Property Clean-Up RFP should be issued at this time. We have attached for the Court's review and consideration the proposed Property Clean-Up RFP in Attachment A and the proposed Property Clean-Up RFP Bidder List in Attachment B.

Your Claims Administrator has shared the Property Clean-Up RFP and the Property Clean-Up RFP Bidder List with the Finance Committee, and we have considered their suggestions and we have received no objections.

A proposed Order is submitted for the Court's consideration.

Thank you for the Court's consideration.

Yours very truly,

A handwritten signature in black ink, appearing to read 'Edgar C. Gentle, III', written over the typed name.

Edgar C. Gentle, III
Claims Administrator

ECGIII/kah
Enclosures

cc: (with enclosures)(by e-mail)(confidential)

Stephanie D. Thacker, Esq.,
DuPont Representative on the Settlement Finance Committee

Virginia Buchanan, Esq.
Plaintiff Class Representative on the Settlement Finance Committee

Meredith McCarthy, Esq.,
Guardian Ad Litem for Children

Michael A. Jacks, Esq.

Clerk of Court of Harrison County,
West Virginia, for filing (via hand delivery)

**ATTACHMENT A
TO JANUARY 18, 2012
CLAIMS ADMINISTRATOR REPORT-
PROPERTY CLEAN-UP RFP**

**REQUEST FOR PROPOSALS
FOR REMEDIATION OF SOIL AND HOUSES IN THE CLASS AREA
IN THE PERRINE DUPONT SETTLEMENT**

TABLE OF CONTENTS

	Page
1. Project Title	1
2. Contact Person	1
3. Settlement Office Address	1
4. Format	1
5. Proposed Budget	1
6. Remediation Area, Tentative Clean-Up Standards and Limited Resources.....	2
7. Issuance Date	2
8. Bidder Questions Conference Call	3
9. Submittal Deadline.....	3
10. Interview Date.....	3
11. Project Award(s) Date.....	3
12. Fairness Hearing on Proposed Clean-Up	3
13. Projected Start Date.....	3
A. Introduction	4
B. Goals of the Project.....	8
C. Key Components of the Request for Proposal (RFP) Response	8
D. Scope of Work.....	14
1. Pre-Mobilization Activities	14
2. Implementation of General Remedial Action Requirements.....	16
3. Implementation of Quality Control.....	23
4. Implementation of Remedial Action Components	25
5. Scope of Services for Phase I – Zone 1A Soil Remediation.....	34
6. Scope of Services for Phase II – All Zones House Remediation.....	37
7. Health and Safety/Contingency Plan	45
8. Quality Assurance Project Plan (QAPP)	46
9. Contractor Worker Training/Qualifications	47
E. Optional Site Visit and Conference Call	48
F. Review of Candidates and Contractor Selection.....	48

LIST OF EXHIBITS

Exhibit A	June 27, 2011 Property Remediation Order
Exhibit B	Class Area
Exhibit C	Excluded Grasselli Properties Map
Exhibit D	Uniform Price Bid Form
Exhibit E	Kirk W. Brown, Ph.D Report and Remediation Cost Calculations

LIST OF APPENDICES

Appendix A	Mandatory Terms
Appendix B	House Clearance Testing Protocols
Appendix C	Additional Contract Terms
Appendix D	February 3, 2012, 1:00 PM EST Orientation Call Dial-In Instructions

REQUEST FOR PROPOSALS (RFP)
FOR REMEDIATION OF SOIL AND HOUSES* IN THE CLASS AREA
IN THE PERRINE DUPONT SETTLEMENT

1. Project Title: Perrine DuPont Soil and House* Remediation Program (the "Property Clean-Up Program" or the "project")
2. Contact Person: Edgar C. Gentle, III, Esq.
Special Master and Claims Administrator
Perrine DuPont Property Remediation Administration
GENTLE TURNER & SEXTON
501 Riverchase Parkway East, Suite 100
Hoover, AL 35244
(205) 716-3000 (telephone)
(205) 716-3010 (facsimile)
E-Mail: escrowagen@AOL.com
Web Site: www.perrinedupont.com
3. Settlement Office
Address: Perrine DuPont Settlement Claims Office
ATTN: Edgar C. Gentle, Claims Administrator
c/o Spelter Volunteer Fire Department Office
55 B Street
P.O. Box 257
Spelter, West Virginia 26438
(304) 622-7443
(800) 345-0837
Fax: (304) 622-7447
4. Format: One (1) paper copy and one electronic disc or USB flash drive.
5. Proposed Budget: Budget will be negotiated upon Contractor selection.

6. Remediation Area,
Tentative Clean-Up
Standards, and
Limited Resources:

This is the Class Area in Exhibit B, less the Grasselli property area depicted in Exhibit C and described in the June 27, 2011 Order in Exhibit A, and includes (i) remediation of the upper 6 inches of soil of approximately 160 individual soil parcels in Zone 1A of the Class Area only, averaging 1/3 acre for purposes of your bid only, which have cadmium, arsenic, zinc and/or lead in soil test results that exceed the remediation action levels; and (ii) remediation of the interior of approximately 600 houses, averaging 1,500 square feet for purposes of your bid only, in the entire Class Area (assume in your bid that there are 235 houses in Zone 1, 210 houses in Zone 2, and 155 houses in Zone 3), which have lead (and possibly also cadmium, arsenic and/or zinc)-in-dust test results that exceed the remediation action levels.

The Settlement has not finalized the metals contamination standards to be used to determine clean-up contamination levels for soil parcels or houses, and these will be determined by the Court at a Fairness Hearing in April 2012. Tentative soil clean-up contamination levels are 400 ppm for lead, 12.5 ppm for arsenic, and 39 for cadmium. At this time, it appears that soil zinc contamination levels do not result in a recommended clean-up. For houses, lead may be the only metal relied on in recommending a clean-up, with the tentative clean-up contamination level being 40 micrograms per square foot.

There may be only \$34 Million available for this project, to include Settlement administration costs.

7. Issuance Date: Friday, January 27, 2012

Issued: January 27, 2012

8. Bidder Questions
Conference Call: Friday, February 3, 2012, 1 PM EST (dial-in instructions are in Appendix D).
9. Submittal
Deadline: February 23, 2012 - delivered no later than 5:00 PM EST.
10. Interview Date: March 5, 2012
11. Projected Award(s)
Date: March 12, 2012
12. Fairness Hearing on
Proposed Clean-Up: April 2012
13. Projected Start Date: May 15, 2012, weather permitting

A. Introduction

This Settlement¹ involves, in part, remediation of properties in the Class Area in Exhibit B in and around Spelter, West Virginia, because of alleged heavy metal contamination, consisting of cadmium, arsenic, zinc, and lead (the “heavy metals”). Said contamination was allegedly caused by a former DuPont zinc smelter in Spelter. At one time, the zinc smelter processed raw ore and approximately fifty (50) acres of tailings, i.e. associated waste product, was stored on site. Defendant, DuPont, denies all liability. The Settlement was approved by Court Order on January 4, 2011 and provided for remediation of properties in the Class Area.

This is a Court Ordered clean-up process and is not the result of either state or federal regulatory agency enforcement action. It is the result of a Settlement. However, the successful bidder (the “Bidder” or the “Contractor”) assumes the responsibility of complying with all pertinent State, Federal and local permitting and regulatory laws. The U.S. Environmental Protection Agency (“EPA”) and the West Virginia Department of Environmental Protection (“DEP”) previously participated in a remediation project of the property now owned by DuPont where the zinc smelter and waste were located, which is not part of the Settlement. The capping of the waste was completed in approximately 2006, although groundwater monitoring is ongoing. The EPA and DEP conducted some soil sampling in the Spelter area in the mid-1990’s and did not require DuPont to address the private property owners’ soil or houses in the current Class Area.

Under this Settlement, the Honorable Thomas A. Bedell, Circuit Judge of Harrison County, West Virginia, has approved property heavy metals remediation (clean-up) for properties in Zones 1A, 1B, 2, and 3 of the Class Area (see Map in Exhibit B), except for the Grasselli properties, which were excluded from this case by the West Virginia Supreme Court of Appeals, on March 26, 2010, and are depicted in Exhibit C. However, the Settlement, and not the Bidder, is responsible for identifying the properties

¹ The Settlement resolved the case of Perrine, et al. v. DuPont, et al., in the Harrison County, West Virginia, Circuit Court. All relevant Orders entered by the Court in this case may be viewed on the Settlement website, www.perrinedupont.com.

subject to this remediation program. The entire Class Area is approximately five miles from east to west by seven miles north to south. The alleged method of distribution of the heavy metals throughout the Class Area was via the air, either directly from stack emissions from horizontal and vertical retort furnaces on the Defendant's property or via dust dispersal from the tailings pile.

The Property Clean-Up Program provides soil and house testing and clean-up for heavy metals in Zone 1A, which generally consists of Spelter, West Virginia, and only house testing and clean-up in the entire Class Area (including Zone 1, Zone 2, and Zone 3), to the extent there is adequate available funding.

The Settlement is in the process of testing soil in Zone 1A only and houses throughout the Class Area, and preliminary estimates on the number of properties (soil and houses) that will need to be remediated are provided above.

The remediation will begin in Zone 1A, where the potential contamination is believed to be greater than in the outer areas, and will work its way to the outer Zones. The soil in Zone 1A will be cleaned first in conjunction with the houses in Zone 1A. To the extent there are available moneys, the houses in the remainder of Zone 1 (Zone 1B) will be cleaned second, Zone 2 will be cleaned third, and Zone 3 will be cleaned last.

Depending on test results, some Zone 1A properties will have only soil remediation, some will have only house remediation, and some will have both.

Zone 1A is the only zone that will have soil and house remediation. Zones 1B, 2, and 3 will only have house remediation to the extent there is adequate funding available.

Zone 1A consists of approximately 205 participating parcels, including those immediately surrounding the former zinc smelter in Spelter, and a small area of land in Erie, Meadowbrook, and New Quarters. Within Zone 1A, there are areas (Grasselli Properties) which are not included in this Settlement and where testing and remediation

shall not be conducted. In addition, certain property owners have opted-out and will opt-out of having their property remediated, and these properties will not be tested or remediated.

For purposes of your bid, prospective Contractors should assume that 160 soil parcels will be remediated, each parcel averages 1/3 of an acre, and soil is to be remediated to a depth of 6 inches below the ground surface, with a 2 foot margin or set-off around the house and similar structures, with the Contractor responsible for structural damage. The average parcel in Zone 1A includes a house, so removal of soil may be constrained in tight quarters around foundations, fences, gardens, etc.

The Settlement will decide which houses and parcels of soil will be remediated and will provide a list, in both Excel format and on paper if necessary, of the GPS coordinates, tax parcel identification numbers, and a photograph to locate each house and parcel that will be remediated. The Settlement is conducting ongoing sampling of soil and houses and pre-remediation test results will be provided to the selected Contractor(s) for each property that requires remediation. The Settlement is obtaining legal permission to enter the affected properties prior to remediation.

Your bid should include costs for a licensed surveyor to determine the exact boundaries of soil parcels for remediation and to accurately verify the six-inch soil excavation depth at each property.

The Settlement has considered various soil remediation alternatives including excavation with off-site disposal, phyto-remediation and soil stabilization. The Settlement has concluded that soil excavation with off-site disposal will be necessary for the soil in Zone 1A which exceeds the remediation action levels. Although testing is not complete, it is the current belief of the Settlement that the soil which will be removed will be classified as non-hazardous. Therefore, tipping fees per ton should be calculated accordingly. However, as shown in the Uniform Price Bid Form in Exhibit D, prospective Contractors should provide a price quote for disposal of the excavated soil as

a hazardous waste in the event that all or some of the soil is tested to meet the characteristics of a hazardous waste.

As an optional part of your proposal, the Settlement requests, at your option, that you describe the available remediation processes, and the associated differences in cost and effectiveness, for either: (i) removing; or (ii) stabilizing the heavy metals of concern (although at this time the Settlement intends to excavate, remove, and dispose of the soil in an appropriate off-site facility). This is an optional request, and need not be fulfilled for you to provide a bid. Also, the Settlement is interested in reviewing any specific concepts proposed by the prospective Contractors to facilitate project implementation, to minimize potential risks to human health and the environment, to minimize construction time, to minimize construction costs, or to accomplish other beneficial objectives. For any project alternatives, the Contractor may, as an option, consider providing:

1. A description of the proposed alternative.
2. A summary of the benefits of implementation of proposed alternative.
3. Cost savings, if any, and the Contractor's proposed cost savings arrangement with the Settlement.
4. Any other pertinent information.

Any alternatives proposed by the prospective Contractor must be included in the Contractor's written proposal for the Settlement's consideration.

Although the Settlement does not endorse or have specific knowledge of its operations, Waste Management, telephone number (304) 842-7010, operates a landfill facility approximately five (5) miles from Spelter which: (i) is licensed to receive and dispose of hazardous or non-hazardous waste; and (ii) may be able to provide replacement soil for remediated homes.

B. Goals of the Project

1. Removal and replacement of heavy metal contaminated soils from Settlement-identified Class Member parcels in Zone 1A.
2. Removal of heavy metal contaminated dust from Settlement-identified Class Member houses throughout the Class Area.
3. In connection with the remediation program, maintenance of a positive and cooperative atmosphere with area residents and property owners.
4. Timely and cost-efficient remediation within budget and assigned timelines.
5. Return the yards and houses that are remediated to a better than original condition with regard to human safety, the absence of hazardous contamination, and return to original or better than original condition cosmetically.
6. In April 2012, the Settlement plans to have a one- or two-day Fairness Hearing with the Court and the property owners to finalize the project. The selected Contractor should plan to attend the Fairness Hearing and participate. The Settlement may also have one or two days of town meetings with the selected Contractor being expected to participate.
7. As the clean-up of a given parcel of soil or a house is completed, it will be the responsibility of the Contractor to obtain written confirmation of completion from the owner, on a form provided by the Settlement.

C. Key Components of the Request for Proposal (RFP) Response

To facilitate review of Proposals from prospective Contractors, all Proposals submitted by Bidders shall address the following items and shall be organized in the following manner:

1. A letter of transmittal not to exceed one (1) page, signed by an individual or individuals authorized to bind the prospective Contractor contractually. The transmittal letter shall include the name, title, address, and telephone number of one or more individuals who can respond to requests for additional information and of one or more individuals who are authorized to negotiate and execute a contract on the prospective Contractor's behalf.
2. A description of the prospective Contractor's general understanding of the scope of the work and the key issues associated with performing the required services. Said description must include statements regarding the prospective Contractor's familiarity with this project and similar projects and describe unusual conditions or problems that may be encountered during this project. To facilitate review by the Settlement, the information provided by the prospective Contractor shall be organized in the following manner:
 - a. Summary of Contractor's qualifications.
 - b. Summary of Contractor's proposed project organization and management.
 - c. List of personnel to be assigned to project, including job title and qualifications (resumes, if included, should be provided in an appendix).
 - d. Summaries of Contractor's relevant project experience, emphasizing projects involving soil remediation at residential and commercial properties and removal of heavy metal contaminated dust from houses and commercial structures (details regarding applicable remedial action experience should be provided in an appendix).
 - e. Summaries of safety records for the last five years (including OSHA Reportable Lost Time Accidents and OSHA Reportable Medical cases, compared to annual hours worked).
 - f. Technical approach to implementation of this Project.

The Settlement anticipates that the information provided by the prospective Contractors in response to paragraph 2 (above) will be limited to a maximum of 20 pages, excluding appendices.

3. A project task list with a time frame and description of each necessary task to successfully complete the project. As a subset of the task list, provide a detailed description of the tasks to be performed, and the estimated number of man-hours and resources required to complete each task. The task list should include time schedules and milestones and personnel assignments to demonstrate the prospective Contractor's ability to complete the project on time.
4. If subcontractors will be utilized, provide the company name and contact information for each company, and references for each company with a description of similar projects performed in the past by that company.
5. A statement, confirming that the prospective Contractor can achieve the Settlement's Time of Performance. It is the Settlement's goal to begin soil and house remediation in Zone 1A on May 15, 2012, weather permitting. It is the Settlement's goal to complete soil remediation by December 31, 2012. It is the Settlement's goal to complete house remediation in the entire Class Area by December 31, 2013.
6. A Price Proposal, utilizing the Uniform Price Bid Form in Exhibit D, for the remediation scope of work described below in Section D. To facilitate review of Proposals, prospective Contractors should complete and submit a completed copy of the Uniform Price Bid Form (Exhibit D). The Uniform Price Bid Form must include a per Zone 1A soil remediation price and a per Class Area house Remediation price. The name of the firm and the date of submission shall be clearly marked in the upper right hand portion of the Uniform Price Bid Form. The Uniform Price Bid Form should include a per unit price for these tasks and a total project cost.

The selected Contractor must provide invoices and reports that enable the Settlement to perform required reporting and project management. Invoices must be submitted with costs clearly broken out by task and with applicable backup documentation (e.g. disposal facility weight tickets). The selected Contractor will be required to provide monthly status reports and monthly invoices.

7. A statement regarding your ability to conduct the testing scope of work WITHOUT THE USE OF SUBCONTRACTORS. If you intend to use subcontractors, please clearly define the scope of work your company is capable of completing independently.
8. As previously indicated, a description of any specific concepts proposed by the prospective Contractor to facilitate project implementation, to minimize potential risks to human health and the environment, to minimize construction time, to minimize construction costs, or to accomplish other beneficial objectives. For any project alternatives, the Contractor should provide:
 - a. A description of the proposed alternative.
 - b. A summary of the benefits of implementation of proposed alternative.
 - c. Cost savings, if any, and the Contractor's proposed cost savings arrangement with the Settlement.
 - d. Any other pertinent information.

Although not mandatory, any alternatives proposed by the prospective Contractors must be included in the Contractor's written proposal for the Settlement's consideration.

9. References and resumes for all Contractor principals involved, including a description of the last three (3) similar projects conducted by the prospective Contractor, with contact information for the parties for whom said projects were conducted.

10. Other Mandatory Items:

a. Prospective Contractors shall provide a list of all current applicable insurance policies or a certificate of insurance listing the insurance limits and applicable policies. The bids from prospective Contractors shall be based on meeting, at a minimum, the following insurance limits (at the prospective Contractor's expense):

- Workers' Compensation: with waiver of subrogation in favor of the Perrine DuPont Settlement (which is the Perrine DuPont Property Remediation Qualified Settlement Fund, an IRC §468B Qualified Settlement Fund domiciled in West Virginia), E.I. DuPont De Nemours and Company ("DuPont"), and Gentle, Turner & Sexton.
- Employer's Liability: one million dollars (\$1,000,000.00) per incident, with waiver of subrogation in favor of the Perrine DuPont Settlement, DuPont, and Gentle, Turner & Sexton.
- Commercial General Liability: two million dollars (\$2,000,000.00) per occurrence; combined single limit.
- Professional Liability: one million dollars (\$1,000,000.00) per claim with maintenance of coverage for two (2) years following the completion of the Project.
- Umbrella Policy: Excess Liability, one million dollars (\$1,000,000.00) per claim.
- Environmental Impairment or Pollution Liability of two million dollars (\$2,000,000.00) per occurrence.
- Provision to name the Perrine DuPont Settlement, DuPont and Gentle, Turner & Sexton as additional insureds on the above policies, as evidenced by a Certificate of Insurance verifying coverage limits.

- b. The Contractor will provide a one (1) year warranty for all work completed.
 - c. The Contractor will indemnify the Perrine DuPont Settlement against direct or third party claims arising from services provided by the Contractor.
 - d. Identify whether or not you are, or employ, a West Virginia Licensed Remediation Specialist.
 - e. Identify any exceptions or special conditions applicable to the proposed scope of work.
 - f. List the last three soil remediation projects you performed, and the contact person for the client. Please provide the same information for the last three interior house remediation projects that you performed.
 - g. Please note that the provision of a construction/performance bond in the amount of the contract will be your responsibility at your cost if you are awarded the Contract.
11. Other Mandatory Terms: Prospective Contractors should complete and provide a copy of Appendix A (Acceptance of Mandatory Terms) with their Proposals.
12. Other Contract Terms: Prospective Contractors shall confirm their agreement to comply with the Additional Contract Terms provided in Appendix C.
13. The preparation of the RFP response, including any travel associated with a site view and/or interview, shall be at the expense of the prospective Contractor. It is the full responsibility of the Bidder to examine the RFP and attachments and research the project in order to obtain needed information to prepare the RFP response. Any questions regarding the RFP shall be answered during a conference call on February 3, 2012, at 1:00 EST, at which time the Bidder group will have an equal opportunity to ask questions and hear answers. Dial-in instructions are in Appendix D. Within two (2) business days after the call, the

Settlement will provide a resulting list of the questions that were asked by prospective Bidders and the answers that were provided.

14. The RFP response shall be delivered to Edgar C. Gentle, III, Esq., Claims Administrator, Perrine v. DuPont Settlement Remediation Program, 501 Riverchase Parkway East, Suite 100, Hoover, AL, 35244. All documents should be delivered no later than February 23, 2012 at 5:00 PM EST. The format of the RFP response should include one paper copy and one electronic disc or USB flash drive.

D. Scope of Work

The Settlement anticipates that the selected Contactor will perform work at the Site that will include pre-mobilization activities, general remedial action requirements, quality control, remedial action components, Phase I (Zone 1A soil remediation), Phase II (all zones house remediation), and related tasks. The work is defined in further detail in Sections D1 – D8, which follow.

1. Pre-Mobilization Activities

Prior to mobilization to the site, the selected Contractor will perform pre-mobilization activities that will include at least the following tasks:

a. Access Agreements

The selected Contractor will obtain copies of access agreements from the Settlement and ensure the work is performed in accordance with the property-specific access agreements.

b. Photographs, Videotaping, and Property Drawings

Prior to work at each property, the selected Contractor will take photographs and prepare a videotape of the property to show pre-remediation conditions. The selected Contractor will retain and use the photographs and videotape for resolving disputes with property owners, if any arise, related to post-remediation conditions at the property. The

selected Contractor will also prepare a sketch for each property to depict conditions at the property (dimensions, house location and size, sidewalks, driveways, shrubbery beds, trees, soil remediation areas, etc.).

c. Health and Safety

The selected Contractor will be responsible for preparation and implementation of a health and safety program. As part of those requirements, the selected Contractor will prepare a Health and Safety/Contingency Plan to meet the requirement of 29 CFR §1910.120 and any other applicable health and safety regulations. The Health and Safety/Contingency Plan will establish the protocols necessary for the recognition, evaluation, and control of all hazards associated with each task to be performed by the Contractor and its subcontractors. The Health and Safety/Contingency Plan will address site-specific safety and health requirements and procedures based on site-specific conditions and will also include a contingency plan to address the actions to be taken in the event of situations that could impact public health, safety, and the environment during the implementation of remedial activities. Additional details regarding the Health and Safety/Contingency Plan are provided in Section D7 of this RFP.

d. Quality Assurance Project Plan

The selected Contractor will prepare a Quality Assurance Project Plan to meet the requirements summarized in Section D8 of this RFP.

e. Permit Notifications and Other Authorizations

The selected Contractor will file permits or notify the appropriate permitting agencies, as necessary, in order to limit potential delays in the commencement of remedial activities. The selected Contractor will also obtain any other local authorizations that may be necessary for the completion of work. The selected Contractor's activities include obtaining

all permits required by Harrison County and/or any municipality within the Class Area that requires permits (potential incorporated municipalities that may require permits include Clarksburg, Bridgeport, Shinnston, and Lumberport).

2. Implementation of General Remedial Action Requirements

a. General Execution Requirements

All remedial activities must be performed in compliance with federal, state, and local regulations.

b. Permits/Approvals

The Contractor will be required to comply with the permits and approvals issued by federal, state, or local agencies.

c. Construction Schedule

As indicated above, the selected Contractor will be required to prepare and submit a construction schedule to define the sequencing of preparatory activities, construction operations, and project close-out activities for the project. The selected Contractor will be required to notify the Settlement of schedule changes, if any, and the reasons for the changes, during completion of remedial action. The selected Contractor will be required to update the schedule on at least a monthly basis and when schedule changes occur.

d. Project Administration

- Pre-construction Meeting: Prior to initiation of remedial activities at the site and if requested by the Settlement, the selected Contractor will coordinate, schedule, and participate in a pre-construction meeting at the site with the project participants. The purpose of the meeting will be to introduce key personnel, to

define authorities and responsibilities for completion of construction activities, and to tour the site and discuss details related to project implementation. The selected Contractor will provide and arrange for telephone conferencing to allow meeting participants to participate in the pre-construction meeting by conference call, if desired. The agenda for the meeting will be developed by the selected Contractor and will include at least the items defined in the scope of work. The selected Contractor will maintain and distribute the minutes of this meeting by electronic mail to the Settlement.

- Project Meetings: If requested by the Settlement, progress meetings will be conducted by the Contractor at the project site every week. The Contractor will ensure that adequate meeting facilities are available and the location will have the ability to conference call participants from remote locations. The Contractor will coordinate and initiate conference calls, set up a dial-in conference line, and pay for the use of the dial-in conference line.

No later than two calendar days after each progress meeting date, the Contractor will distribute copies of minutes by electronic mail. The meeting minutes will reflect the topics discussed with an emphasis on conflicts raised and decisions made and will include a brief summary, in narrative form, of progress since the previous meeting.

- Problem Resolution Meetings: A special meeting will be held when and if a problem or deficiency is present or likely to occur. At a minimum, the meeting will be attended by the Settlement, the Contractor, and any affected subcontractors. The purpose of the meeting will be to define and resolve the problem or work

deficiency. The meeting will be documented by the Contractor and minutes will be transmitted as required for progress meetings.

e. Manifests and Disposal of Nonhazardous Wastes

The Contractor will be authorized to sign shipping documents and waste manifests on behalf of the Settlement for use in transporting materials from the site to the disposal facility(ies).

f. Time of Work

The Contractor's work at the site will be performed in accordance with local ordinances.

g. Site Conditions

The Contractor's responsibilities with respect to utility properties and service are summarized as follows:

- The Contractor will be responsible for locating and marking all underground installations, in advance of site activities, which includes contacting all local utilities.
- If the Contractor's operations could cause damage or interruption to utilities, railway, sewer, or other systems, the Contractor will suspend operations until appropriate arrangements have been made to protect the utilities and services.
- In the event of interruption of domestic water, sewer, storm drain, or other utility service as a result of accidental breakage due to construction operations, the Contractor will cooperate with appropriate authorities in restoration of the service as promptly as possible and bear all costs of repair.

- At its own expense, the Contractor will replace or repair all existing utilities, drainage culverts or structures removed or damaged during construction if they are not designated for removal, demolition, or abandonment.

h. Coordination of Work

- Job Site Coordination: The Contractor will be responsible for coordination of all on-site activities with property owners, regulatory authorities, subcontractors, and others, as appropriate.
- Protection of Work and Property: The Contractor will provide appropriate security and other measures to protect its equipment, work, and public property against damage. In the event of damage to such property, the Contractor will immediately restore the property to a condition equal to or better than its original condition and will pay all restoration costs.

i. Environmental Controls

The Contractor will perform all activities in compliance with appropriate federal, state, and local environmental regulations, including but not limited to, those related to solid waste and hazardous waste management, water pollution control, and Occupational Health and Safety Act (OSHA) regulations for work at remediation sites. In addition, the Contractor's activities will be conducted to minimize noise by using appropriate construction methods and equipment and by providing acoustical barriers, if necessary, so that noise levels do not exceed legal requirements and disturb local residents. The Contractor will also be required to conduct activities in a manner to minimize generation of dust and to comply with other air pollution control regulations. No burning of trash will be permitted.

j. Sanitary Facilities

The Contractor will provide sanitary facilities for use by its employees, representatives of regulatory agencies, and site visitors. The sanitary facilities will include toilet facilities and water for washing of hands and faces. The sanitary facilities will conform to local codes.

k. Field Offices

The Contractor will be responsible for supply and installation of field offices for use by the Contractor's employees and subcontractor's employees. The field offices will be equipped with a telephone and fax machine and will provide for access to the Internet for electronic communication for use by the Contractor's employees and subcontractor's employees. The field office and supplies maintained in the field office (which are expected to include but not necessarily be limited to bottled water, paper towels and cups, hand soap, toilet paper, etc.) will be maintained and replenished as necessary for the duration of the project. The Contractor will be responsible for disposal of any materials generated as a result of operation of the field offices.

l. Storage of Materials

Materials will be stored to ensure the preservation of their quality and fitness for the work. In addition, material storage will be performed in accordance with applicable regulations and to minimize potential impacts upon the environment.

m. Safety Requirements

All work at the site will be performed in accordance with federal, state, and local health and safety requirements, including those of OSHA. Federal OSHA requirements include, but are not limited to, general industry regulations (29 CFR Part 1910), construction regulations (29 CFR Part 1926), hazardous materials operation (29 CFR Part 1910), OSHA

recordkeeping and reporting regulations, and the USEPA regulations set forth in 40 CFR Part 300 regarding conduct of work at Superfund sites. Health and safety requirements will be detailed in the Contractor's Health and Safety/Contingency Plan, which will be submitted to the Settlement for review prior to conduct of work.

The Contractor will also comply with applicable federal, state, and local fire prevention regulations. Where these standards do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) will be followed.

n. Site Security

The Contractor will provide site security for controlling access to and from the site to limit unauthorized entry during all site activities, commencing with mobilization and ending upon final demobilization.

The Contractor will maintain any existing fencing during construction and will repair or replace damaged fence with equivalent new fence as soon as practical. The Contractor will provide traffic control, as necessary, for vehicles and trucks entering or exiting the site.

o. Site Maintenance and Clean-up

The Contractor will maintain the site in a clean and orderly manner. Blowing trash or debris will be collected daily, placed in appropriate receptacles provided by the Contractor, and disposed as necessary.

p. Storm Water Controls

The Contractor will maintain storm water controls to divert storm water flow from active work areas and to prevent off-site runoff. Contaminated storm water will be collected, treated if necessary, and disposed in accordance with applicable regulations.

q. Tracking of Mud

The Contractor will perform remedial activities in a manner to minimize the tracking of mud over paved areas and onto off-site areas. Any soil or debris deposited as a result of vehicular traffic will be cleaned up immediately.

r. Samples and Test Procedures

The Contractor's sampling and testing procedures will be defined in the QAPP. Sampling and testing procedures will include, but not necessarily be limited to:

- Topsoil sampling and testing, prior to use for backfilling, excavation areas, in accordance with this RFP.
- Sampling and analysis of topsoil (one sample per remediated property) for total arsenic, total cadmium, total lead, and total zinc, after the soil is placed as backfill at each remediated property (for use in the Settlement's efforts to provide property-specific data to each property owner).
- Air sampling and analysis in accordance with this RFP.
- Dust sampling and analysis in accordance with this RFP.
- Other sampling and testing, as necessary.

Contractor is not required to sample soil at the bottom of the six inch soil exclusion.

s. Daily Work Report

The Contractor will prepare and maintain a daily work report and other records to summarize all activities performed during completion of remedial activities. At a minimum, the daily work reports should include a listing of personnel on-site, hours worked, equipment utilized, work performed, field and laboratory test results and measurements, and related information. The daily work report will be submitted electronically to the

Settlement on a daily basis to summarize remedial action activities performed at the site.

3. Implementation of Quality Control

a. Quality Control Program

- The Contractor will develop and implement a quality control program to meet the requirements of the scope of work. Specifically, the Settlement anticipates that the Contractor's quality control program will include the sampling plan and performance monitoring components of the Quality Assurance Project Plan, which will ensure that the completed project meets or exceeds all design criteria, plans, and specifications.
- Quality control will be implemented to comply with the highest industry standards, except when specified requirements indicate more stringent standards, and to secure, protect, and maintain products and work completed or in progress from damage during completion of remaining work.

b. Pre-Construction Soil Testing

- The Contractor will define the specifications for topsoil, to be used for restoration of excavated areas, in the Quality Assurance Project Plan. Prior to use, the sources for imported materials will be determined and representative samples of each material from each source will be collected and tested by the Contractor to determine whether the appropriate material specifications are met.
- Unless otherwise defined by the Contractor in the Quality Assurance Project Plan, the Settlement anticipates that topsoil will meet at least the following requirements:

- Topsoil will be classified as sandy loam, loam, or silt loam in accordance with the USDA Soil Classification System and will have a maximum particle size of one inch.
 - Topsoil will be free of metal, debris, foreign objects, large rock fragments, stumps, vegetation, and invasive and non-native species.
 - The pH of the topsoil will resemble the pH of a sampled topsoil from a reference location in Harrison County.
 - Topsoil will contain sufficient organic matter to promote vegetation growth.
 - Topsoil will be clean, through testing the soil for constituents contained in EPA's Target Analyte List and Target Compound List (i.e., metals per EPA Methods 6010B/7740/7061/7470; VOCs per EPA Method 8260; Semi-VOCs per EPA Method 8270; PCBs and pesticides per EPA Method 8081 or equivalents). Upon receipt of laboratory data, the Contractor will submit the data to the Settlement with a recommendation for approval.
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- The topsoil will be accepted or rejected according to the test results. The Contractor will perform additional testing if alternative material is required during construction or, if based upon visual inspection during delivery to the site, it appears that material change (color, grain size, plasticity, etc.) has occurred.
 - In addition to the topsoil testing requirements defined above, the Contractor will collect one topsoil sample per remediated property and analyze the sample for total metals (arsenic, cadmium, lead, and zinc).

c. Quality Control Testing Frequency

The schedule of quality control inspection and testing will be performed in accordance with the requirements of the Quality Assurance Project Plan.

d. Deficiencies

If a defect is discovered in the earthwork product, the Contractor will immediately determine the extent and nature of the defect. The Contractor will be obligated to correct defects.

4. Implementation of Remedial Action Components

a. Setup of Site Administration and Logistical Support

Prior to full-scale mobilization, the Contractor will become thoroughly familiar with the site, existing site conditions, and the scope for remedial activities to be performed. The Contractor will also be required to perform various logistical preparation activities to ensure an efficient startup of field activities. Logistical preparation activities to be performed by the Contractor are anticipated by the Settlement to include at least the following:

- Arranging for supplies, materials, and equipment.
- Coordination of efforts with subcontractors, if any.
- Coordination of work activities with property owners.
- Initiation of property activities including locating utilities, coordination of access agreements, meeting with property owners, and related activities.
- Arranging for laboratory analytical services.
- Arranging for waste hauling licenses and transporters, as necessary.
- Arranging for waste disposal facilities, as necessary.
- Establishing transportation routes.
- Coordination of efforts with local officials, local agencies,

hospitals, etc.

- Coordination of efforts to identify potential sources of clean topsoil for use in restoration activities and for testing of topsoil, as required.
- Other related logistical support activities.

b. Mobilization

Upon completion of logistical preparation activities, the Contractor will mobilize personnel, equipment, materials, and other resources to the site to initiate remedial action activities. Mobilization activities are anticipated to include, but are not limited to, the delivery, installation, hookup, and maintenance of temporary offices and construction facilities. Temporary offices and construction facilities are expected to include field offices, support facilities, utilities, dust and pollution control facilities, personnel protection and work areas, and creation and maintenance of access roads and parking areas, as required.

Prior to initiating intrusive work activities at the site, the Contractor will:

- Establish work zones to control ingress and egress.
- Establish site control measures (i.e., storm water, erosion, dust control, etc.).
- Locate and mark underground utilities.
- Construct staging and other support areas.

The Contractor will perform remedial activities to meet the detailed scope of services for Phase I (Zone 1A Soil Remediation) and Phase II (All Zones House Remediation), as identified in Section D5 and Section D6 of this RFP, respectively. In addition to the requirements addressed in Section D5 and Section D6, the Contractor will also perform remedial activities to meet the following general remedial action requirements:

- Access Road Construction: The Contractor will construct access roadways, as necessary, utilizing crushed stone or other materials, to facilitate work activities. The Contractor will establish suitable facilities for parking.
- Erosion and Sedimentation Control Measures: The Contractor will install and maintain erosion and sedimentation control measures, including silt fence, diversion berms and ditches, and hay bales to prevent runoff of contaminated storm water or to prevent runoff of storm water into work areas. All surface water and erosion controls will be in place prior to initiation of remedial action activities at the site and will be inspected and maintained for the duration of the project.
- Decontamination of Equipment and Vehicles: As required, the Contractor will provide labor, materials, and equipment necessary to decontaminate equipment and vehicles.
- Soil Stabilization: If determined to be necessary, the Contractor will perform soil stabilization of characteristically hazardous soil to render the soil nonhazardous prior to disposal. If soil stabilization is necessary to render the soil nonhazardous prior to off-site disposal, the Contractor will perform treatability testing and prepare a stabilization plan for review by the Settlement.
- Waste transportation and disposal: The Contractor will provide all labor, materials, and equipment required to transport excavated materials from the properties to the off-site disposal facility(ies). Off-site transportation and disposal will comply with all applicable regulatory requirements, and all federal, state, or local laws, codes, and ordinances.

The Contractor will be responsible for loading, labeling, placarding, marking, and manifesting all off-site shipments. As previously indicated, the Contractor will also be required to sign the manifests or shipping papers on behalf of the Settlement. Prior to departure from the site, the Contractor will tarp all vehicles and decontaminate all vehicles transporting materials for off-site disposal. Each vehicle will be inspected and approved by the Contractor for general cleanliness of the frame and tires. The vehicle will also be inspected for leaks, tarp tears, or container damage.

- Backfilling of excavated areas: Excavated areas will be backfilled in accordance with the Construction Quality Assurance Plan.
- Fertilizing, seeding, and mulching: Following the placement of backfill, the excavated areas and all other disturbed areas will be fertilized, seeded, and mulched in accordance with the Construction Quality Assurance Plan.
- Wastewater treatment and disposal: The Contractor will be required to collect all contaminated water, contaminated storm water, and decontamination water generated during remedial action activities. Collected water will be treated, if necessary, sampled and tested as required, and either reused on-site, discharged, or disposed at an off-site facility in accordance with applicable regulations.
- Dust control: The Contractor will perform remedial action activities and otherwise maintain the site so that the creation and dispersion of dust is minimized. Dust control procedures will be

used throughout the project, especially during soil excavation activities, soil handling activities, backfilling, and transportation activities. Dust control procedures will be implemented whenever necessary to ensure that all air pollutant standards established by federal, state, and local regulatory agencies are met.

- Air monitoring: Due to the potential for dust to be produced during remedial activities, the Contractor will develop and implement an air sampling and monitoring program during remedial activities. The air sampling and monitoring program will be performed to evaluate potential exposure to on-site personnel and to evaluate the potential off-site mobilization of airborne contaminants. To monitor the potential concerns, the Contractor will collect and analyze air samples from the perimeter of the property as well as in work areas. Real-time air monitoring will also be performed in work areas to evaluate the potential risks to on-site workers and the level of respiratory protection required while performing remedial activities.

Air monitoring will be performed in accordance with the air monitoring specifications as summarized below:

- High-Volume (Perimeter) Air Sampling: The Contractor will provide, install, and maintain four ambient air monitoring stations along the perimeter of the remediation zone that will be used by the Contractor for collecting and analyzing samples for airborne metals (arsenic, cadmium, lead, and zinc) and particulates using the procedures outlined in the Quality Assurance Project Plan during remedial activities. At a minimum, three high-volume air samplers as specified in the Quality Assurance Project

Plan will be located in prevailing downwind areas of the remediation zone, and a fourth air monitoring station will be located in the prevailing upwind portion of the remediation zone. The air monitoring stations will be placed as far away as possible from potential interferences associated with roads, trees, buildings, or any other obstructions to the wind, and in general accordance with EPA's siting criteria.

At the four monitoring stations, the Contractor will provide and install high-volume particulate samplers mounted on a stable base, approximately six to eight inches above the ground surface, which will allow air samples to be collected from the breathing zone. The Contractor will supply a power source(s) for operating the samplers and will ensure that each station is equipped to monitor for total suspended particulates (TSP) and total metals.

The Contractor will be responsible for collecting air samples, for delivery of those samples to the analytical laboratory, and for reporting the data to the Settlement. The Contractor will perform TSP and total metals sampling using the procedures outlined in the Quality Assurance Project Plan on a daily basis for each phase of work that has the potential to generate significant amounts of dust until analytical results from at least the first three days of sampling have been reported to the Settlement. Work phases that have a potential for significant release of dust include soil excavation, soil loading activities, transportation, and decontamination activities. Samples will be collected with high-volume air samplers for an eight-

hour period during the work activity. High-volume air sample analysis will be performed on a rush (three-day) basis.

If analytical results from the first three days of sampling for each phase of work are below one half of the appropriate action levels defined in the Health and Safety/Contingency Plan, then the sampling and analysis frequency will be reduced to once per week, and samples collected after the initial three days but prior to receiving the initial data do not need to be analyzed. If the total metal concentrations in any high-volume perimeter air sample exceed the action levels, the Contractor will immediately identify the source(s) of the contaminants and take the necessary measures to reduce the contaminant concentrations below the action level.

If real-time TSP monitoring, as indicated below, exceeds the trigger level for TSP, then time-integrated high-volume air sampling for TSP and total metals will be reinstated until the analytical results of three consecutive days of sampling have been reported and the results are below the action level.

- Work Area (Personnel) Sampling: The Contractor will develop and implement a personnel air sampling program to evaluate the level of respiratory protection, if any, required by site workers performing remedial activities. Personnel air sampling and monitoring will be conducted at a minimum: (a) during mobilization to establish background airborne metal concentrations; and (b) during

remedial activities that have the potential to expose site workers to airborne dust.

Personnel air monitoring data will be collected from site workers with the greatest potential to be exposed to airborne dust. The Contractor will prepare a personnel air sampling and monitoring plan as part of the Contractor's Health and Safety/Contingency Plan. The personnel air sampling and monitoring plan will describe the number and frequency of samples to be collected, will identify the specific site workers to be protected, and will include procedures for the collection and evaluation of data from personnel sampling activities.

- Real-Time Air Monitoring: The Contractor will be responsible for real-time air monitoring of construction activities using an aerosol monitor or equivalent as specified in the Quality Assurance Project Plan. Real-time air monitoring at the site perimeter and work zone perimeter will be performed during all phases of work with the potential for significant release of dust, including soil excavation, loading activities, transportation, and decontamination activities.

The Contractor will calculate an airborne TSP concentration (i.e., a trigger level) that cannot be exceeded downwind of the work zone to ensure that the action levels for total metals are not exceeded at the site perimeter. This calculation will be performed by comparing the total metals and TSP results from the high-volume air samples

to the real-time air monitoring readings for TSP for the same time period.

The Contractor will monitor for TSP at a minimum of four locations at the perimeter of the remediation zone every two hours during each work activity listed above.

If real-time TSP monitoring results at the remediation zone perimeter exceed the trigger level, the Contractor will stop work and initiate additional dust control measures, and time-integrated high-volume air sampling for TSP and total metals will be reinstated until analytical results of three days of sampling have been reported and the emissions are below the action level.

If the real-time TSP monitoring results at the work zone perimeter exceed the trigger levels, the Contractor will stop work and initiate additional dust control measures.

The Contractor will maintain a logbook that will include observations relevant to operation of the air monitoring network and the results of all real-time air monitoring. The log book will also include operating days and times, calibrations, problems, corrective actions taken, maintenance, results, and weather observations at the site.

The Contractor will be responsible for evaluating the results of air sampling and upon receipt of analytical data for immediately informing the Settlement of any corrective action measures, including additional dust

control measures, which are necessary based upon those results.

- Field Records: The Contractor will maintain a logbook which will be kept up to date at all times. The logbook will include observations relevant to work at the site, including the operation of the air monitoring network and the results of all real time air monitoring. The logbook will also include all operating days and times, calibrations, problems, and remedial actions taken, maintenance, and results.

5. Scope of Services for Phase I – Zone 1A Soil Remediation

Phase I will be performed in Zone 1A to remove hazardous levels of heavy metal contamination in soils. Note: For contaminated Zone 1A houses located on contaminated Zone 1A soils, the Phase II clean-up (houses) shall be conducted in tandem with the soil clean-up to the extent practicable.

Contractor shall be responsible for any yard or structure damage resulting from the soil remediation process.

The general work activities associated with Phase I to be performed by the Contractor are summarized above in Section D1 (Pre-Mobilization Activities), Section D2 (Implementation of General Remedial Action Requirements), Section D3 (Implementation of Quality Control), and Section D4 (Implementation of Remedial Action Components). In addition, the Contractor will also perform the following scope of services as part of Phase I:

- a. Only soil that is part of the targeted Class Member parcel identified for clean-up by the Settlement will be remediated. Soil remediation will be performed on the upper 6 inches of soil only. The Settlement anticipates that soil remediation will only address open yard areas (bare and vegetated soil). Areas below shrubbery beds, exposed areas below wood decks or

porches, and similar areas, but that soil below concrete sidewalks, asphalt driveways, or other impervious surfaces will not be remediated. The Settlement also anticipates that areas below large trees will not be remediated to protect root systems. The limit of excavation shall extend no closer than two feet from existing building foundations to prevent accidental contact by excavation equipment or compromise of foundation footers, with the Contractor being responsible for structural damage. Hand digging may be substituted in these instances.

- b. The Contractor must become familiar with and protect existing site conditions, including but not limited to utilities, existing buildings and out-buildings, public rights of way, and special areas of concern to property owners.
- c. The Contractor is responsible for obtaining all permits and any Business and Occupation (B&O) tax obligations required by Harrison County and/or any municipality within the Class Area that requires permits (potential incorporated municipalities that may require permits include Clarksburg, Bridgeport, Shinnston, and Lumberport).
- d. The Contractor is responsible for providing all material, labor, and equipment for completing the work described herein, and for storing said material and equipment during the duration of the project.
- e. The Contractor is responsible for providing any security, safety fencing or other safety measures required by Harrison County or any Class Area Municipality or the Settlement.
- f. The Contractor is responsible for pre-wetting soil (if necessary for dust control purposes); excavating all soil and vegetative material to a depth of 6 inches (as determined and measured by the Contractor's surveyor); and

loading, transporting, and disposing of all excavated material (assume for purposes of the bid only that there are 160 individual 1/3-acre parcels to be remediated) in an appropriate, licensed off-site disposal facility. The average lot size in Zone 1A is approximately 50 feet by 150 feet, although there is significant variance from the average. The Settlement believes this soil will be classified as non-hazardous for tipping purposes although testing is ongoing. Contaminated soil will be loaded directly after excavation, whenever possible, to minimize potential exposure to residents. Accordingly, on-site storage of soil pending removal will be strictly limited.

- g. The Contractor is responsible for replacing and backfilling soil to the level of the original yard, with a pre-tested topsoil from an off-site source which has been tested for the contaminants of concern (i.e. cadmium, arsenic, zinc and lead and other potential contaminants identified in this RFP), and shown to be substantially free of said contaminants. The process will require ongoing maintenance to add topsoil, if the new topsoil settles below the backfilled level of the original yard. Additionally, the replacement soil will need to be seeded and covered with straw (potentially hydro-seeded) and irrigated until vegetative growth is satisfactory. The Settlement also requests that the Contractor consider the use of sod for revegetation, if it is more efficient and less expensive than revegetation with seed. While use of the manual is not a regulatory requirement, the Settlement strongly encourages contractors to be familiar with the West Virginia Department of Environmental Protection (WVDEP) Erosion and Sediment Control Best Management Practice Manual available at http://www.dep.wv.gov/WWE/Programs/stormwater/csw/Pages/ESC_BMP.aspx.

- h. The Contractor is responsible for dust control measures during excavation and the remediation process. Dust control measures may include spraying dry soils with water or a surfactant agent prior to excavation, covering soil piles with polyethylene, limiting the size of the excavation area, or ceasing excavation during high wind conditions. The Contractor will additionally be responsible for monitoring airborne dust and corrective actions to reduce any actionable level of hazardous airborne dust.
 - i. The Contractor will be responsible for completing a Bill of Lading for each truck load of contaminated soil to track its disposal.
 - j. The Contractor must provide detailed logs and daily sheets of work performed, in addition to regular invoices, to allow the Settlement to perform project management, and to timely process invoices. The Contractor shall be responsible for documenting all field activities. Records of field activities should be legible, identifiable, retrievable and protected against damage, deterioration, and loss. The Contractor should record all documentation in waterproof, non-erasable ink. If an error in any of these documents is made, the Contractor shall make corrections by crossing a single line through the error and entering the correct information adjacent to it. The corrections shall then be initialed and dated. The Contractor shall keep a dedicated logbook for each clean-up project with the name of the project leader, team members, and project name written inside the front cover. Entries shall be legible, accurate, and complete. The language shall be factual and objective.
- 6. Scope of Services for Phase II – Houses* Remediation in Zones 1,2,3
 - a. It is the intent of the Settlement to implement the remediation strategy outlined by Dr. Kirk W. Brown, Ph.D (Brown, 2007) for interior cleaning, sealing and repair of Settlement approved Houses* within the Class Area. A copy of Dr. Brown's Report and his Remediation Cost Calculations are

provided as **Exhibit E**. In the report, Dr. Brown describes varying levels of effort anticipated for remediation based on structure type and location within Remediation Zone 1, 2, or 3. The report provides a narrative description of the remedial approach, by Remediation Zone, with the intent of reducing the quantity of the metals Arsenic (As), Cadmium (Cd), Lead (Pb), and Zinc (Zn) within the Class Area household dust. A more detailed description of the anticipated level of remedial effort for each type of structure in each remediation Zone is presented below in the Remediation Procedures by Zone and Remediation Costs attachments to Dr. Brown's Report. Note: However, contrary to the Brown Report, the Settlement (i) will not recommend the replacement of furniture; and (ii) not every house* will be remediated, but only those identified by the Settlement.

Contractor, at its expense, shall take reasonable measures to store and facilitate the safeguarding of the owner's belongings in the house remediation process, and the Contractor is responsible for any damage, breakage, loss, or theft thereof due to the remediation process. One approach would be to provide the owner with a "pod" to store valuables with only the owner to have the key. Contractor shall be responsible for house damage resulting from the remediation process.

- b. In Zone 1A only, and only at properties where the soil and the house interior are both contaminated, the residential yard soil source shall initially be cleaned before indoor dust remediation begins at a specific residence.
- c. Description of Interior Remediation by Remediation Zone and Type of Structure

It is noted that for some residential structures, access to the attic area will not be possible without removal of installed ceiling materials which may include plaster, drywall or other construction materials, which will also need to be replaced. For purposes of bidding, this may be assumed for approximately 25% of residential structures (i.e., 150 of the 600 houses).

For some residential structures, drop-ceiling acoustic tiles have been installed. These may also need to be replaced as part of the interior physical remediation. For purposes of bidding, the Settlement will request unit prices for replacement of ceiling tiles.

The following is provided as a list of repair and cleaning activities which will generally be required for all interior physical remediation and professional cleaning based on the type of structure and remediation zone:

Remediation Zone 1

Intensive Interior Physical Remediation – Thorough Professional Cleaning

Remediation of Attics: Attic insulation removal, HEPA vacuum cleaning, sealing of surface, insulation replacement

Thorough professional cleaning of all surfaces in living space and basements

(HEPA Vacuum, Wet Detergent Wash, HEPA Vacuum) to include the following:

Living Spaces:

- Ceilings, walls, floors, baseboards, stairs and railings
- Light Fixtures and ceiling fans
- HVAC vents
- Doors and windows (inc. frames)
- Electrical outlets
- Cupboards and cabinets
- Sinks and stoves
- Appliances

Basements: same as living spaces with special attention to:

- top of exposed walls between floor joists,
- top of pipes,
- wires
- HVAC duct surfaces
- beams
- other locations prone to accumulate dust.

Carpet replacement (Zone 2 and 3 cleaned)

Furniture Cleaning

Replace HVAC Ducts

Cleaning HVAC Unit

- Intake ducts
- Grills

- Registers
- Diffusers
- Heat exchangers
- Cooling coils
- Drip pans
- Fan motors
- Fan Housings
- Filter Replacement

Sealing (latex caulk) of cracks in plaster, holes around electrical fittings, gaps around window and door frames.

Repainting of wall or ceiling repairs Replace drop ceiling tiles.

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Note: Intensive Interior Physical Remediation and Thorough Professional Cleaning is a qualitative description of the level of effort (time and material) anticipated for Zone 1 to achieve remedial objectives of maximizing the recovery of interior dust and eliminating pathways to prevent dust that cannot be reasonably recovered from entering the functional interior living spaces. An intensive level of effort is anticipated to demonstrate attainment for Post-Remediation Confirmatory Testing. Estimates for the anticipated level of effort for each type of structure are provided in the Remediation Costs attachments to Dr. Brown's Report, also in Exhibit E.

Note: Eligible Mobile homes in Zone 1 will receive the same intensity of remediation as residential house except for remediation activities associated with attics and basements.

Note: Eligible Commercial Structures in Zone 1 will receive the same intensity of remediation as Residential Structures.

Remediation Zone 2

Moderate Interior Physical Remediation – Thorough Professional Cleaning

Remediation of Attics: Attic insulation removal, HEPA vacuum cleaning, sealing of surface, insulation replacement

Thorough professional cleaning of all surfaces in living space and basements

(HEPA Vacuum, Wet Detergent Wash, HEPA Vacuum) to include the following:

Living Spaces:

- Ceilings, walls, floors, baseboards, stairs and railings
- Light Fixtures and ceiling fans
- HVAC vents
- Doors and windows (inc. frames)

- Electrical outlets
- Cupboards and cabinets
- Sinks and stoves
- Appliances

Basements: same as living spaces with special attention to:

- top of exposed walls between floor joists,
- top of pipes,
- wires
- HVAC duct surfaces
- beams
- other locations prone to accumulate dust.

Carpet replacement

Furniture Cleaning

Replace HVAC Ducts

Cleaning HVAC Unit

- Intake ducts
- Grills
- Registers
- Diffusers
- Heat exchangers
- Cooling coils
- Drip pans
- Fan motors
- Fan Housings
- Filter Replacement

Sealing (latex caulk) of cracks in plaster, holes around electrical fittings, gaps around window and door frames.

Repainting of wall or ceiling repairs

Replace drop ceiling tiles as needed.

Clean Upholstered Furniture with HEPA vacuum

Note: Moderate Interior Physical Remediation - Thorough Professional Cleaning is a qualitative description of the level of effort (time and material) anticipated for Zone 2 to achieve remedial objectives of maximizing the recovery of interior dust and eliminating pathways to prevent dust that cannot be reasonably recovered from entering the functional interior living spaces. An intensive level of effort is anticipated to demonstrate attainment for Post-Remediation Confirmatory Testing. Estimates for the anticipated level of effort for each type of structure are provided in the Remediation Costs attachments to Dr. Brown's Report.

Note: Eligible Mobile homes in Zone 2 will receive the same intensity of remediation as residential house except for remediation activities associated with attics and basements.

Note: Eligible Commercial Structures in Zone 2 will receive the same intensity of remediation as Residential Structures with the exception that commercial carpets will be cleaned with HEPA vacuum rather than replaced.

Remediation Zone 3

Thorough Professional Cleaning

Remediation of Attics: Attic insulation removal, HEPA vacuum cleaning, sealing of surface, insulation replacement

Thorough professional cleaning of all surfaces in living space and basements (HEPA Vacuum, Wet Detergent Wash, HEPA Vacuum) to include the following:

Living Spaces:

- Ceilings, walls, floors, baseboards, stairs and railings
- Light Fixtures and ceiling fans
- HVAC vents
- Doors and windows (inc. frames)
- Electrical outlets
- Cupboards and cabinets
- Sinks and stoves
- Appliances

Basements: same as living spaces with special attention to:

- top of exposed walls between floor joists,
- top of pipes,
- wires
- HVAC duct surfaces
- beams
- other locations prone to accumulate dust.

Clean Carpet with HEPA vacuum

Porous Furniture Replacement (Living room set, (Zone 2 and 3 cleaned)

Replace HVAC Ducts

Cleaning HVAC Unit

- Intake ducts
- Grills
- Registers
- Diffusers
- Heat exchangers
- Cooling coils
- Drip pans
- Fan motors
- Fan Housings
- Filter Replacement

Sealing (latex caulk) of cracks in plaster, holes around electrical fittings, gaps around window and door frames.

Repainting of wall or ceiling repairs
Replace drop ceiling tiles as needed.
Clean Upholstered Furniture with HEPA vacuum

Note: Thorough Professional Cleaning is a qualitative description of the level of effort (time and material) anticipated for Zone 3 to achieve remedial objectives of maximizing the recovery of interior dust and eliminating pathways to prevent dust that cannot be reasonably recovered from entering the functional interior living spaces. Estimates for the anticipated level of effort for each type of structure are provided in the Remediation Costs attachments to Dr. Brown's Report.

Note: Eligible Mobile homes in Zone 3 will receive the same intensity of remediation as residential house except for remediation activities associated with attics and basements.

Note: Eligible Commercial Structures in Zone 3 will receive the same intensity of remediation as Residential Structures.

Generated Waste Disposal – All Zones

Bidders will be required to properly manage and appropriately dispose of all project-generated wastes. The Bidder approach to generated waste disposal shall be described in the QAPP.

Post Remediation Confirmatory Sampling Program – All Zones

Bidders shall develop and submit a Sampling and Analysis Plan (SAP) to complete post-remediation confirmatory sampling. The SAP shall include sampling approach, number and type of samples, sample media, analytical methods and all other pertinent information required for the post-remediation confirmatory sampling program to demonstrate attainment for remediation of metals containing dusts.

- d. Pre-Remediation Inspection Visit - Prior to performing in-house remediation, a pre-inspection meeting will be held at the property to define the structure

specific scope of work. This activity will be performed to determine the specific activities required for each property based on Dr. Brown's approach for each type of structure by Remediation Zone. The meeting shall include the homeowner or their authorized representative, possibly a representative of the Settlement, and the Contractor's representative. An inspection of the structure will be performed with all parties participating in developing the site specific scope of work necessary to complete remedial objectives. All parties will agree to the scope of work and indicate, by signature, the agreed upon approach on a form provided by the Settlement. A copy will then be provided to all parties and work may begin.

- e. A recommended resource for specialized cleaning procedures applicable to recovery of metal containing dusts may be found in the U.S. Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead Based Paint.
- f. In designing your proposal, prospective Contractors should provide adequate resources so that remediation of a house will be accomplished in an average of two weeks, such that only short-term temporary relocation of residents would be necessary. The Settlement will be responsible for resident relocation in the event there are necessary relocation costs.
- g. To facilitate uniform comparison of Bid Responses, the Settlement requires that Bidders complete the Uniform Price Bid in Exhibit D. For bidding purposes, Bidders should assume that houses* average 1,500 square feet.
- h. Hazardous Materials – The Settlement has not performed testing to confirm if lead based paint or potentially asbestos containing materials (PACM's) are present in any of the structures within the Class Area. Although not specifically identified by Dr. Brown's remediation approach, due to when it was written, there is reasonable potential to encounter these materials. In

accordance with applicable laws, the Contractor and their agents shall demonstrate appropriate education and training to appropriately address PACM's that may be encountered during the remediation process. These may include, but are not limited to, Lead Based Paint (LBP), vermiculite insulation, and Asbestos Containing Materials (ACM's). At a minimum, contractors must demonstrate that workers have completed awareness training in accordance with OSHA 1926.1101 for Class IV activity workers in construction, remodeling and renovation, lead awareness training at a minimum consistent with OSHA 1926.62 and the EPA Lead; Renovation, Repair and Painting Rule in accordance with 40 CFR Part 745. Bidders shall identify their approach to address LBP and ACM in their QAPP and/or HASP. If suspect materials are encountered by Contractors, they should not be disturbed, and the Settlement shall be notified to determine an appropriate modification to the scope of work. In its bid, the Contractor shall take into account possible costs of carrying out the provisions of this paragraph.

7. Health and Safety/Contingency Plan

As indicated above, the Contractor will prepare a site-specific Health and Safety/Contingency Plan ("HASP") for use by site workers and to protect the general public. The HASP shall specify that all work be conducted in accordance with the regulations published by the Occupational Safety and Health Administration (OSHA) at 29 CFR Part 1910 and 1926. Specifically, the Contractor must comply with OSHA regulations in Part 1910.120 that govern work at hazardous waste sites and include requirements for training, equipment, medical monitoring, and other practices. The HASP will, at a minimum, specify the levels of personal protective equipment, engineering controls and monitoring devices necessary to ensure that workers and the general public are not exposed to heavy metal contaminated soil or dust through dermal contact, ingestion, or inhalation of particulate matter.

8. Quality Assurance Project Plan (QAPP)

Prior to conducting any remediation activities and as indicated above, the Contractor shall prepare and submit a Draft Quality Assurance Project Plan (QAPP) for review by the Settlement. Bidders should account for completing edits to the Draft after review by the Settlement. The QAPP will address site contamination characteristics, employee health and safety procedures, equipment and personnel decontamination procedures, investigation derived wastes management, and worker protocol for interacting with subject property owners, as well as the standard QAPP information. The Contractor may elect to submit the required Health and Safety Plan and Sampling and Analysis Plan as part of the QAPP or as a standalone documents.

The QAPP guidance document should include extensive checklists, including the following:

- a. Field personnel should be up-to-date in their health and safety training.
- b. Field personnel should have a medical examination at the initiation of sampling activities and routinely thereafter, as appropriate and as required by OSHA.
- c. Staff also should be aware of the common routes of exposure at a site and be instructed in the proper use of safety equipment and protective clothing and equipment. Safe areas should be designated for washing, drinking, and eating.
- d. To minimize the impact of an emergency situation, field personnel should be aware of basic first aid and have immediate access to a first aid kit.

The guidance manual *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (OSHA 1985, revised 1998) was jointly developed by the National Institute for Occupational Safety and Health (NIOSH), OSHA, the United States Coast Guard (USCG), and EPA. Its intended audience is those who are responsible for occupational safety and health programs at hazardous waste sites.

Decontamination of sampling equipment refers to the physical and chemical steps taken to remove any chemical or material contamination.

The Contractor shall submit as part of the QAPP a decontamination plan for equipment and personnel that describes the project specific decontamination procedures for the remediation effort. In addition, items used to clean the equipment, such as bottle brushes, should be free of contamination.

Sampling and decontamination will generate a quantity of wastes called investigation derived waste (IDW). The Contractor shall address the generation of IDW, the characterization of IDW (procedures to define whether IDW is hazardous or nonhazardous), and the appropriate handling and disposal of IDW in the QAPP and sampling plan. The Contractor must define and implement plans to minimize the generation of hazardous IDW and keep it separated from nonhazardous IDW. For additional guidance on handling IDW, see Management of Investigation-Derived Wastes (USEPA 1992f).

Decontamination of personnel and their protective gear also is often necessary during hazardous material remediation. This important type of decontamination protects personnel from chemical exposure and prevents cross-contamination when personnel change locations. The level or degree of such decontamination will depend on site-specific considerations, such as the health hazards posed by exposure to the sampled waste. The Contractor shall address these decontamination procedures in the QAPP and/or health and safety plan.

9. Contractor Worker Training / Qualifications

The Contractor's HASP will define the Contractor's programs and qualifications for initial and ongoing worker training. At a minimum, the Contractor's HASP is expected to address asbestos/lead-based paint, OSHA requirements (ladders, confined space determination/requirements, etc.), medical monitoring, worker PPE specifications (NIOSH HEPA ½ mask P-100 filters),

hazardous materials awareness training for the contaminants of concern (arsenic, cadmium, lead, zinc, and asbestos), and others.

E. Optional Site Visit and Conference Call

Upon request, there may be an opportunity for an optional Class Area site visit.

A conference call shall be held on February 3, 2012, at 1:00PM EST with the Claims Administrator to answer any questions that you may have regarding this RFP. The dial-in instructions for the call are provided in Appendix D.

F. Review of Candidates and Contractor Selection

Based upon Bidder presentations during the interview process and review of the RFP submissions, the Claims Administrator will determine one or more preferred candidate(s). The preferred candidate(s) will be chosen based upon the following:

1. Responsiveness to all aspects of this solicitation;
2. Technical merit (i.e., approach detail, appropriateness of approach, experience & depth of risk assessment, staff, probability of method success, plan with regard to community outreach); and
3. Estimated total cost, fixed costs, unit costs, and contract terms and conditions.

If a negotiated contract is not achievable or funds are not available, the Claims Administrator has the option to award no contract, or to award multiple contracts, or to award a contract to Bidder(s) who are not the preferred candidate(s).

SCHEDULE OF EXHIBITS

- A June 27, 2011 Property Remediation Order
- B Class Area
- C Excluded Grasselli Properties Map
- D Uniform Price Bid Form
- E Kirk W. Brown, Ph.D. Report and Remediation Cost Calculations

APPENDICES

- A Mandatory Terms
- B House Clearance Testing Protocols
- C Additional Contract Terms
- D February 3, 2012, 1:00 p.m. EST Orientation Call Dial-In Instructions

**EXHIBIT A TO RFP:
JUNE 27, 2011 PROPERTY
REMEDiation CLEAN-UP ORDER**

FROM

(MON) JUN 27 2011 10:27:57.10:26/NO. 0000725167 P 2

IN THE CIRCUIT COURT OF HARRISON COUNTY, WEST VIRGINIA
LENORA PERRINE, et al., individuals
residing in West Virginia, on behalf of
themselves and all others similarly situated,
Plaintiffs,

v.

Case No. 04-C-295-2
Thomas A. Sedell, Circuit Judge

E.I. DU PONT DE NEMOURS AND COMPANY, et al.,
Defendants.

FINAL ORDER ESTABLISHING PROPERTY REMEDIATION (CLEAN-UP)
PROGRAM

Presently pending before the Court is the issue of the design and implementation of the Property Remediation (Clean-Up) Program. The Claims Administrator reports that, after payment of previously Court approved Class Counsel fees and expenses, initial properly remediation program start-up expenses pursuant to the Court's previously approved initial budget, and reasonable contingencies, there is approximately \$34 million remaining in the Perrine DuPont Property Remediation Settlement Fund to fund the Class Area property remediation program described in this Order. The Court takes judicial notice of prior testimony of Class Counsel expert, Dr. Kirk Brown, that \$57 million may be required for the clean-up. Therefore, a prudent, deliberate and frugal clean-up program is a necessity.

The property remediation program is one of the two types of relief agreed to by Class Counsel and DuPont in the Settlement November 18, 2010 Memorandum of Understanding, as approved by this Court's January 4, 2011 Final Order Approving the

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Settlement. Medical Monitoring, the other portion of the Settlement, is addressed in other Orders of this Court.

The following steps were taken to accord the Property Class Members procedural due process and to afford them maximum input in the design of the property remediation program: (i) Property Class Members were first invited by letter and publication to two weeks of town meetings at the Spelter, West Virginia Volunteer Fire Station, where the Settlement Claims Office is located, held during the weeks of February 28 and March 7, 2011, which were timely held, with the Claims Administrator and Mr. Marc Glass, the Settlement property remediation expert approved by the Court, outlining the parameters of a possible property clean-up program, and receiving initial Class Member input on property clean-up program design; (ii) utilizing the input from Property Class Members at the town meetings, on April 8, 2011, the Claims Administrator mailed the Class Members a questionnaire inviting them to provide their further input in property program design, with 340 Class Members timely completing and returning the questionnaire by May 1, 2011; (iii) the Claims Administrator mailed a letter to the Property Class Members on May 16, 2011, providing them with the results of the questionnaire answers, outlining the Claims Administrator's initial recommendations on property clean-up program design, and inviting the Class Members to the Court Fairness Hearings on property clean-up program design on June 2 and 3, 2011; and (iv) the Court then conducted these two days of Fairness Hearings, at which the Claims Administrator and the Settlement property remediation expert outlined a possible remediation program and answered Class Member questions, and a realtor and a physician described possible Class Area property value and Class Area resident health benefits from a property remediation program, and all attending Class

Members and all other individuals were invited and allowed to provide this Court with their suggestions on the record on how to design the property remediation program. A videographer recorded the first day of the Fairness Hearings, which may be viewed on the Settlement website, at www.parrinedupont.com.

After receiving the above input from the Claims Administrator, Settlement Property Remediation Expert and numerous Property Class Members on property remediation program design, considering the opinions expressed by Class Members and other individuals attending the Fairness Hearings¹, the opinions of the realtor and physician who made presentations at the Fairness Hearings, a thorough review of the facts of the case, and careful consideration of the input of numerous interested individuals who live in the Class Area, as well as the input and opinions of various experts and professionals in the record, the Court hereby ORDERS the following:

The Property Class Definition of December 21, 2006, is hereby modified so as only to include current Class Area property owners who are not subject to the releases of the so-called Grasselli Deeds, described below. Therefore, the only individuals who may participate in the property remediation program are current property owners of eligible Class Area properties. There is no money provided by the Settlement to compensate past owners of Class Area property for two reasons. First, there was no Jury Verdict for property damages, so there was never an award of any kind simply for property damage.

¹The following individuals spoke at the June 2 and 3, 2011, Fairness Hearings described above: Norman Tate, Albert Sheffer, Francis Ice, Cindy Difatta, Hubert Ferrall, Rod Tanney, Joannette Kaoniz, Francis "Sue" Tate, Wayne Alley, George Buck, Diane Singleton, Ronald Sheffer, David Moser, Shawn Singleton, Ronald Brown, Thelma Valente, and Don Elder. Additionally, the following individuals submitted letters which were filed with the Court: Wanda Ostrous, Judith Andrews, Earl Goodwin, Jr., Doris Martin, Joyce White, Rose Pichery, and Janice Niven. Additionally, the Claims Administrator provided the Court with Class Member correspondence respecting the property clean-up program that was received before the Fairness Hearing, and three petitions were presented to the Court, two by Francis Ice, and one from Francis "Sue" Tate.

Second, there is no punitive damages award in the Settlement. The Settlement between the Parties provided funds for a medical monitoring program and a remediation program. All other claims which were a part of the Complaint were eliminated by the Memorandum of Understanding between the Parties, and the prior judgment in this case was vacated by prior Order of this Court.

Next, the Court **ORDERS** that there will be no "cash" option for Class Area property owners to choose instead of remediation. Although some individuals have expressed the opinion that a clean-up of Class Area properties would somehow be wasted, the Court does not share this opinion. After listening to the testimony at trial and reviewing thousands of pages of materials during the nearly eight (8) years this case has been before the Court, the Court determines that certain parts of the Class Area are potentially hazardous to human health.

The property remediation program under the Settlement should provide the safest environment it can for the inhabitants of the Class Area, based on the \$34 million available. If the Court provided a "cash" option instead of a clean-up, much of the potentially hazardous contamination in the Class Area would remain for generations to come. Therefore, the funds available for remediation of Class Area properties through the Settlement will be used solely for clean-up related expenses, as further defined in this Order.

Further, the Court notes that, even if the property remediation program only removed one-half of the Class Area contamination, the Class Area would be safer than it is today. Additionally, hazardous materials testing and cleaning will remove much of the

uncertainty that currently exists about the safety of houses² throughout the Class Area, and soils in Zone 1A. The Settlement offers the only known chance for property remediation for the Class Area, and forgoing that chance to clean the area with a cash payment that could quickly dissipate without any lasting benefit to the Property Class would be unjust.

1. Class Definition

On December 21, 2006, the Court adopted the following definition for the Property Class:

THOSE WHO CURRENTLY OWN, OR WHO OWN OR AFTER DECEMBER 1, 2008 HAVE OWNED, PRIVATE REAL PROPERTY LYING WITHIN THE CLASS AREA DEFINED BELOW ("PROPERTY CLASS") ... Exclusions (1) If you owned property only before December 1, 2003 or only after September 14, 2009 (the Date of entry of the Order Granting Class Certification), you are not a Property Class member.

Individual Notice to Class Members, Dated December 21, 2006, by the Hon. Thomas A. Bedell. Subsequent to the adoption of this Class Definition, important Court Orders, the ruling of the West Virginia Supreme Court of Appeals, and the Settlement itself have necessitated a revision of this Class Definition.

First, the so-called Grasselli properties were excluded by Order of this Court, in 2007, and again by the ruling of the Supreme Court of Appeals on March 26, 2010, as follows:

A review of the Grasselli deeds reveals that the deeds utilized plain language to clearly express the intent of the parties. Notably, the Grasselli deeds were executed as part of the settlement of numerous lawsuits brought against Grasselli by local land owners seeking to recover damages caused by fumes, gases, and dust emitted from the smelter. In exchange for settling these claims, the deeds, in plain language, released Grasselli and its successors and assigns from all actions for losses of "every kind whatsoever" caused by

²Houses, in this Order, includes permanent houses, commercial dwellings and mobile homes which are fit for human occupancy as defined by the Claims Administrator.

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Accordingly, the so-called Grasselli properties are not included in the property remediation program, and the owners of the Grasselli properties are not members of the Property Class.

Next, the Court notes that at the time the 2006 Class definition was established, the Plaintiffs had a claim for property damage in addition to the claim for property remediation. There was no property damages Jury Verdict in the 2007 trial. Therefore, there are no monies available to pay for property damages.

Finally, the Court notes that the voluntary Settlement, as contemplated by the Memorandum of Understanding, entered into on November 19, 2010, and finalized by the "Final Order Approving Settlement" entered by the Court on January 4, 2011, eliminated the claims for punitive damages. The only funding agreed to by the Parties was for property remediation, attorneys' fees and expenses, and medical monitoring.

Because there are no funds for punitive damages and no funds to compensate for property damages, there are no funds to pay past owners of Class Area properties. Accordingly, the property remediation program can only benefit the current owners of eligible properties in the Class Area. There is no money available for a "cash payment" instead of a remediation of affected properties. The only money available is designated for the remediation of Class Area properties.

Accordingly, upon its own motion, the Court hereby modifies the definition of the Property Class to be as follows:

Members of the Property Class are current owners of eligible Class Area properties, as previously identified by Class Counsel within the Class area boundary. A current owner is defined as the owner of the property on the date that this Order is entered. If property is sold between the date of entry of this Order and the date of execution of the Property Remediation,

Program as to that specific property, i.e. the testing and cleaning, if necessary, of that property, the benefits conferred by the Settlement and the Program inure to the new owner, not the old owner, thereby running with the land. Further, the properties identified in Court documents and fully described as the "thirty-two tracts" or the "Grasse III Properties" are excluded from the Property Remediation Program, by Order of this Court and by the ruling of the West Virginia Supreme Court of Appeals.

II. Clean-Up Specifications

The Claims Administrator shall define and set clean-up specifications to clean any contaminated properties to a standard that is reasonably determined to be safe for human occupancy. As described below, and in accordance with the expert testimony of Dr. Kirk Brown in the record, potentially contaminated properties are (i) the soil on Class Member property in Class Area Zone 1 A; and (ii) the houses on Class Member property in the entire Class Area (Zones 1A, 1B, 2 and 3).

III. Sign-Up, Budgeting, and Claim Form

The Claims Administrator shall establish a sign-up program in the most efficient manner to provide an opportunity for eligible Property Class Members to take part in the Remediation Program.

The sign-up period shall be from July 11, 2011 through October 10, 2011, inclusive, with the Claims Administrator to mail to Property Class Members the Claim Form substantially in the form of Exhibit A, together with the invitation letter in Exhibit A to the below described town meetings, on June 27, 2011, to the extent practicable, (with Zone 1A Class Members to receive the additional letter provided). Late registrants shall be admitted to the property clean-up program for good cause, at the discretion of the Claims Administrator. To facilitate the sign-up process, there shall be town meetings at the Speller

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Volunteer Fire Station from July 11 through 16, 2011, inclusive, with a morning, mid-day and evening session, each day.

Following the expiration of the sign-up period, and based upon the sign-up results, the Claims Administrator shall provide to the Court for review and possible approval a property remediation program budget.

IV. Remediation Program Design

The Claims Administrator shall procure one or more licensed, bonded, and experienced companies to test and/or clean Class Area houses and land for hazardous cadmium, arsenic, lead and zinc contamination via a public bidding process. Each eligible parcel of soil or house (as described above) will be tested before any remediation, so that only contaminated properties are cleaned with Settlement funds, and property owners shall receive confidential written confirmation of the contamination status of their home after testing. The Claims Administrator shall start testing as soon as possible on a rolling basis after sign-ups begin, to move the property remediation program forward. Respecting house and soil testing results confidentiality, the Court makes the following findings.

House test results shall remain confidential, with the house, itself, reasonably containing any contamination, so that a Class Member's right to house test results privacy takes priority over a neighbor's interest in the test results. Soil test results confidentiality is more problematic, with soil being the major source of continued Class Area toxic metals dispersal, so that a neighbor has a reasonable interest in knowing the soil test results from adjoining properties. An individual's right to privacy cannot be ignored, however. Therefore, soil test results shall be subject to the following confidentiality rules:

Those having their soil tested:

- (i) Can elect to make the results public by checking the appropriate box on the Claim Form; or
- (ii) Can elect potentially to keep their test results private by checking the appropriate box on the Claim Form. If the soil test results are negative, they will be available to a contiguous land owner who signs a Claims Administrator Confidentiality Agreement. If they are positive, then a contiguous land owner can request them by completing the Confidentiality Agreement, and the Claims Administrator will request permission from the tested Class Member to release them. If the Class Member refuses, then the Court will address the issue at that time.

The remediation program shall begin in Zone 1A, with soil clean-ups taking priority over house clean-ups due to the public and potentially more dangerous nature of contaminated soils. The Court reserves judgment on whether soil clean up should be mandatory or optional. House clean-up will be optional, as the house, itself, largely keeps any contamination from spreading to adjoining properties or houses.

The Claims Administrator shall take reasonable measures to encourage all Zone 1A Class Members to participate in the soil remediation program. For Class Members who participate voluntarily, this issue is moot. If a Class Member is hesitant to participate, the Claims Administrator shall encourage the Class Member to have his soil tested at the expense of the Settlement. If the test is negative, then the issue is moot. If the test is positive, then the Claims Administrator shall encourage the Class Member to participate in soil remediation for the benefit of the Class Area and its residents. If the Class Member refuses, then the Court shall address the matter at that time, when it will be ripe.

After addressing Zone 1A soils, the Program will then move to the cleaning of houses, again starting in Zone 1A, and working outwards, to Zone 1B, Zone 2, and Zone 3, respectively.

With respect to payments for annoyance and inconvenience in participating in the property clean-up program, the Court **ORDERS** the following:

Owners of eligible properties in Zone 1A, regardless of size, in recognition of the annoyance and inconvenience caused by the soil clean-up, shall receive five thousand dollars (\$5,000) per property. This amount shall be divided into two payments, one at the time of verification of a claim for remediation of eligible Zone 1A soil, and one at the time of testing and completion of remediation of the Zone 1A soil, and/or certification that the property is safe and does not need to be remediated. The first payment shall be one thousand dollars (\$1,000). The second payment shall be four thousand dollars (\$4,000). Soil that is remediated shall be evidenced by a confidential written Certificate of Completion provided to the Class Member.

Owners of eligible houses which are fit for human occupancy, as reasonably determined by the Claims Administrator, and any commercial structures fit for human occupancy, as reasonably determined by the Claims Administrator, which are regularly occupied by people, in all three Zones, i.e. the entire Class Area, shall receive a total of five hundred dollars (\$500) per home or commercial structure. The payment shall be divided into two parts: the first payment shall be one hundred dollars (\$100) at the time the claim is verified, and the second payment shall be four hundred dollars (\$400) which shall be paid at the time of testing and completion of remediation of the house, or certification that the house is safe and remediation is not needed. Houses that are remediated shall

Page 11 of 16

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be evidenced by a confidential written Certificate of Completion provided to the Class Member.

The property remediation program and the related annoyance and inconvenience payments shall be based on each individual parcel for tax identification purposes in the Class Area, with the parcel owner(s) noted in the Harrison County, West Virginia, tax rolls to be presumed to be the owner(s) of the property for purposes of this program, absent contrary written proof as reasonably determined by the Claims Administrator. For example, if a Class Member owns more than one eligible lot or parcel that are next to each other and assessed for property taxes together, only one annoyance and inconvenience payment will be made for the property's house(s) or soil (in Zone 1A only) if the Class Member qualifies the affected property. If a Class Member has more than one eligible lot or parcel assessed separately, then multiple annoyance and inconvenience payments will be made if the Class Member qualifies the affected properties.

Funds for the property remediation program are limited. The Claims Administrator shall prioritize the use of funds as follows:

1. First, every verified and eligible property owner, whether of soil in 1A or a house or commercial structure fit for human occupancy in the entire Class Area, shall receive their annoyance and inconvenience payment and shall have their property and/or house tested, and shall be informed of the results confidentially and in writing*. This step of the program takes ultimate priority over cleaning.

*Some Class Area property owners not located in Zone 1A have requested that their soil be tested even though Dr. Brown has advised that this is not necessary. Even though soil clean-up outside Zone 1A is not part of the property clean-up, the Claims Administrator will allow a non-Zone 1A property owner to have his soil tested using part of his annoyance and inconvenience payment for this purpose by checking a box on the Claim Form.

because owners of eligible properties must be informed of the contamination status of their properties. Some properties will not need any cleaning, and informing owners that their soils or houses are safe will remove a lot of uncertainty about Class Area properties.

2. Next, the soil in Zone 1A shall be remediated to the extent necessary to make Zone 1A safe for human occupancy.

3. Next, the houses and commercial structures fit for human occupancy in Zone 1 (Zone 1A and Zone 1B) shall be remediated.

4. Next, to the extent there are adequate funds, the houses and commercial structures fit for human occupancy in Zone 2 shall be remediated.

5. Finally, to the extent there are adequate funds, the houses and commercial structures fit for human occupancy in Zone 3 shall be remediated.

There may not be adequate funds to carry out all five steps above.

Thereafter, any extra remediation funds shall be distributed equally to all participants in the property remediation program, as defined by the further Order of this Court.

Further, the Court recognizes that the funds provided to remediate properties may not reach remediation of contaminated houses in Zones 2 and 3. If those properties cannot be remediated through the Settlement, they shall at least be tested and the owners shall be informed of the test results confidentially and in writing according to the prioritization schedule enumerated, *supra*.

The Claims Administrator shall provide confidential written Certificates of Cleanliness to the owners who participate in the property remediation program for properties that are tested, and found to be safe or not safe for human occupancy.

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regardless of whether the properties are safe at the time of testing or after remediation.

The Claims Administrator shall provide monthly updates on the progress of the property remediation program to the Court and the Finance Committee, and via distribution to the Press as well as publication on the Settlement website.

Further, as the property remediation program progresses, if cleaning necessitates that a house owner leave their house for a short period of time while the soil (in Zone 1A) or house (in the Class Area) is remediated, the property remediation program shall fund local hotel stays for owners and vet or pet sitter stays for pets, at a reasonable rate, to the extent necessary.

Next, the Court notes that certain Class Area property owners have requested funds to perform remediation of their properties on their own. The Court denies this request. The removal of hazardous metals must be done by qualified professionals, who, by thorough testing, will certify to property owners that contamination has been removed. If the Court allows owners to undertake this type of cleaning on their own, there would be no guarantee that necessary cleaning would be accomplished, no guarantee that contamination would be removed, and there could be resulting damage to property or human health. The potential heavy metal contamination in the Class Area involves potentially dangerous carcinogens, and the clean-up of these metals should be done by experts.

The Court also notes that some Class Area property owners have requested reimbursement for claimed past renovation expenses. The property remediation program cannot and shall not provide reimbursement for past expenses related to renovation of Class Area properties. First, the Court and Claims Administrator would have an extremely

difficult time in setting a fair value for any past expenses or renovations. Also, past renovation efforts likely had more than one purpose, such as adding to or improving living space, which is not part of the property remediation program, and it would be unfair to reimburse individuals for added or improved living space when other Class Members will not receive such benefits. Finally, without participation in the program and thorough testing by professionals, the Court cannot know if past amateur renovation efforts actually removed any contamination, so all eligible area properties need to be tested.

The Claims Administrator shall exercise his discretion in establishing and administering the property remediation program, with the supervision and oversight of the Court. Any property remediation program disputes between Class Area property owners and the Claims Administrator, following reasonable mediation and reconciliation efforts by the Claims Administrator, will be resolved by the Court.

Provided that the Claims Administrator, his staff and employees, act in substantial compliance with this Order, the Claims Administrator, and his staff and employees, are hereby granted judicial immunity.

Further, the Court ORDERS that this is a Final Order pursuant to Rule 54(b) of the West Virginia Rules of Civil Procedure and that this Order constitutes a "final judgment (as) there is no just reason for delay," and the Court hereby makes "an express direction for the entry of judgment."

IT IS SO ORDERED.

Finally, the Clerk of this Court shall provide copies of this Order to the following:

David B. Thomas, Esq.
James S. Arnold, Esq.
Stephanie Thacker, Esq.
Allen Guthrie & Thomas, PLLC
500 Lee St., East, Suite 800
P.O. Box 3394
Charleston, WV 25333-3394

Edgar C. Gentle, III, Esq.
Michael A. Jacks, Esq.
Gentle, Turner, & Sexton
66 B Street
P.O. Box 257
Speyer, WV 26438
Special Master and Claims
Administrator

Meredith McCarthy, Esq.
901 W. Main St.
Bridgeport, WV 26330
Guardian ad litem

Virginia Buchanan, Esq.
Levin, Papantonio, Thomas, Mitchell,
Rafferty & Proctor, P.A.
P.O. Box 12308
Pensacola, FL 32591

ENTER: Jan 27, 2011


Thomas A. Bedell, Circuit Judge

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THOMAS A. BEDELL, JUDGE
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FROM

MON JUN 27 2011 10:02:07 AM 0000723767 P 18
SCHELL, MICHAEL TURNER FAX: 203-11072366
JUN 21 2011 11:11:00 AM

EXHIBIT A:

TWO LETTERS (ONE LETTER FOR ALL POTENTIAL PROPERTY CLASS MEMBERS
AND AN ADDITIONAL LETTER FOR ZONE 1A CLASS MEMBERS ONLY) INVITING
PROPERTY CLASS AREA MEMBERS TO JULY 11 TO 16, 2011 TOWN HALL MEETINGS
AND PROPERTY REMEDIATION (CLEAN-UP) CLAIM FORM

LETTER TO ALL CLASS AREA PROPERTY OWNERS

PERRINE DUPONT SETTLEMENT
SPELTER VOLUNTEER FIRE DEPARTMENT CLAIMS OFFICE
55 E. STREET
P.O. BOX 257
SPELTER, WV 26438
304-622-7443
1-800-345-0837
Fax: 304-622-7447 or 205-716-3010
www.perrinedupont.com
perrinedupont@gtandslaw.com

June 25, 2011

Re: *Registration for House Clean-Up Program*

Dear Potential Property Program Class Member,

THIS LETTER INVITES YOU TO A TOWN HALL MEETING AT THE SPELTER FIRE STATION WHERE WE WILL DESCRIBE THE PROPERTY CLEAN-UP PROGRAM AND HELP YOU WITH YOUR PAPERWORK TO REGISTER YOUR PROPERTY FOR THE PROGRAM.

On June, __, 2011, the Circuit Court of Harrison County entered the Final Order Establishing Property Remediation (Clean-Up) Program (the "Order") which established the property clean-up program (the "program") described by this letter. Based upon the information provided to us through the lawsuit, we believe that one or more of your properties may be eligible for the Program.

We have attached a Claim Form, and you must fill out your Claim Form for your property to be part of the Program, which will entitle you to an annoyance and inconvenience payment as described below, as well as testing of your house for arsenic, lead, cadmium and zinc (the "tested metals"), and to the extent necessary and to the extent we can afford it, cleaning of your house.

TO BE ELIGIBLE FOR THE PROGRAM, YOU MUST SUBMIT YOUR CLAIM FORM, FULLY COMPLETED AND WITH THE NECESSARY DOCUMENTATION AS DESCRIBED BELOW, BY OCTOBER 10, 2011.

Town Hall Meetings

We will hold Town Hall Meetings for you to attend for help with registering your house¹ for the program at the Spelter Fire Department, in the dining hall. Anyone can come to either day of the Town Hall Meetings. The suggestion that Claimants with last names beginning with certain letters attend on certain days is only a suggestion so that there will be an even amount of people on each day of the Town Hall Meetings.

Attendance at the Town Hall Meetings is optional and will not affect your house's eligibility for the program in any fashion. However, you must submit your completed claim form and documentation on or before October 10, 2011, for your property to be considered for the program.

TOWN HALL MEETINGS
SPELTER FIRE DEPARTMENT

DATE	TIMES	LAST NAMES
Monday July 11, 2011	9:00AM - 12:00PM	Last Names Beginning With Letters A - E
	2:00PM - 5:00PM	
	6:00PM - 8:00PM	
Tuesday July 12, 2011	9:00AM - 12:00PM	Last Names Beginning With Letters F - J
	2:00PM - 5:00PM	
	6:00PM - 8:00PM	

¹Under the Order, only Class Area Property owners in Zone 1A (see Map attached of Class Area) have a soil clean-up program. Class Members in other Zones only have a house clean-up program.

Wednesday July 13, 2011	9:00AM - 12:00PM 2:00PM - 5:00PM 6:00PM - 8:00PM	Last Names Beginning With Letters K - O
Thursday July 14, 2011	9:00AM - 12:00PM 2:00PM - 5:00PM 6:00PM - 8:00PM	Last Names Beginning With Letters P - T
Friday July 15, 2011	9:00AM - 12:00PM 2:00PM - 5:00PM 6:00PM - 8:00PM	Last Names Beginning With Letters U - Z
Saturday July 16, 2011	9:00AM - 12:00PM 2:00PM - 5:00PM 6:00PM - 8:00PM	Make Up Day - Anyone can come to Meeting

The Claims Administrator, will offer a brief presentation on the program at the beginning of each Town Hall Meeting. After my presentation, my staff and I will help you complete claim forms for your house.

II. House Clean-Up Program Summary

The Order fully describes the program and is available on our website, www.deminedupont.com. The Order requires us to obtain a Claim Form from the owner for each eligible house in the Class Area that is "fit for human occupancy", or a commercial structure reasonably fit for human occupancy, as determined by the Claims Administrator. My staff and other licensed contractors will perform a visual inspection of each house to make sure there is a structure fit for human occupancy.

In addition to the fully completed Claim Form, each house owner must sign the Claim Form, and we must have a copy of the most recent property tax ticket or receipt from Harrison County for the property on which the house is located, as well as a copy of each house owner's photo identification.

The program will begin with a sign-up program from July 11, 2011, to October 10,

2011. As each house is registered, we will test it for the tested metals. Thereafter, we will begin cleaning houses and soil in Zone 1A, around Spalter. Then, we will begin cleaning the houses in Zone 2, including areas such as Gypsy and Hepzibah. Thereafter, we will begin cleaning the houses in Zone 3, including areas such as Arlington, Lumberport, and Shinnston.

Every eligible house which we confirm as part of the Program will entitle the owner or owners to a five hundred dollar (\$500) payment. If there are multiple owners, the money will be shared equally among them. The money will be split into two payments, the first will consist of one hundred dollars (\$100) which will be paid at the time the Claim for the house is verified, and the second payment will consist of four hundred dollars (\$400) at the time the house is tested for hazardous contamination and cleaned if necessary. You get to keep the five hundred dollars even if your property does not need to be cleaned.

If your house is tested and deemed safe, you will receive a Certificate describing your property as safe. Alternatively, if your house tested metals results are positive, after your house is cleaned, you will receive a Certificate of Completion describing your house as safe.

WE CANNOT GUARANTEE THAT YOUR HOUSE WILL BE CLEANED DUE TO LIMITED FUNDING. HOWEVER, EACH HOUSE VERIFIED AS ELIGIBLE WILL BE TESTED AND THE OWNER(S) OF THAT HOUSE WILL RECEIVE FIVE HUNDRED DOLLARS (\$500) AS AN ANNOYANCE AND INCONVENIENCE PAYMENT FOR THAT HOUSE.

We hope that we will be able to test and clean every verified house, however, according to the Order, we must first test everyone, then clean the soil in Zone 1A, and then work through the houses in Zone 1, to Zone 2, and then to Zone 3. This is because the most potentially contaminated areas are closest to the former zinc smelter site and they have been given priority in the program.

The program does not provide any money for former owners of property in the Class Area. It also does not provide any money or testing for or cleaning of the so-called Grasselli properties. Finally, the program does not provide any reimbursement for owners of properties who claim to have renovated their properties on their own. According to the Order, we must test each house to make sure that it is safe, even if the owner believes it to be safe and has already done some renovations or cleaning of the property.

There is no cash option instead of the program. You do not have to participate in the program, but if you do not, you will not receive anything from the property clean-up portion of the Settlement.

If you own eligible property that includes soil in Zone 1A, you are receiving an additional letter in this package about the soil clean-up program.

At the conclusion of the program, any leftover money will be distributed equally to the property owners who participate.

If you have any questions, please come by our office, call us, or send us an email.

Yours very truly,

Ed Gentle,
Claims Administrator
(304) 622-7448
(205) 716-3000
1-800-345-0837 (toll free)
perrinedupont@gtandslaw.com

FROM:

(MDN) JUN 27 2011 15:04/PT. 10:26/AM. 0000720101 P 24

VENTILE, PIAZZA, TURNER FAX: 202-711-072000

JUN 27 2011 11:11AM TWO/021

LETTER TO PROPERTY OWNERS IN ZONE 1A ABOUT SOIL CLEAN-UP ONLY

FERRINE DUPONT SETTLEMENT
SPELTER VOLUNTEER FIRE DEPARTMENT CLAIMS OFFICE
55 B. STREET
P.O. BOX 257

SPELTER, WV 26436
304-622-7442

1-800-245-0857

Fax: 304-622-7447 or 205-716-3010

www.perrinedupont.com

perrinedupont@gtandslaw.com

June 25, 2011

Re: Registration for Soil Clean-Up Program

Dear Potential Property Program Clean-Up Class Member,

We are sending you two (2) letters, the first describes the Property Clean-Up Program in general terms and applies to all eligible properties that are homes or commercial structures which are fit for human occupancy in the entire Class Area and invites you to Town Hall Meetings to learn about the Property Program and register your property.

This letter pertains to soil testing and clean-up in Zone 1A only.

On June __, 2011, the Circuit Court of Harrison County entered the Final Order Establishing Property Remediation (Clean-Up) Program (the "Order") which established the property clean-up program (the "program") described by this letter. Based upon the information provided to us through the lawsuit, we believe that one or more of your properties may be eligible for the program and we believe that at least one of your properties is in Zone 1A and is eligible for soil clean-up.

We have attached a Claim Form, and you must fill out your Claim Form for your soil in Zone 1A to be part of the program, which will entitle you to an annoyance and inconvenience payment as described below, as well as testing, and to the extent necessary

and to the extent we can afford it, cleaning of your soil if it is hazardous to human health. Completion of your Claim Form for eligible Zone 1A property will also entitle you to testing and clean-up (if contaminated) of the house if it qualifies.

TO BE ELIGIBLE FOR THE PROGRAM, YOU MUST SUBMIT YOUR CLAIM FORM, FULLY COMPLETED AND WITH THE NECESSARY DOCUMENTATION AS DESCRIBED BELOW, BY OCTOBER 10, 2011.

Property Clean-Up Program Self Summary

The Order fully describes the program and is available on our website, www.veriledupont.com. The Order requires us to obtain a Claim Form for each eligible property in the Class Area that has soil in one 1A.

In addition to the fully completed Claim Form, each soil owner in Zone 1A must sign the Claim Form, and we must have a copy of the most recent property tax ticket or receipt from Harrison County for the property, as well as a copy of each owner's photo identification.

We will test the soil of each property in 1A once the owner signs up for the program.

The program will begin with a sign-up program from July 11, 2011, to October 10, 2011. As each property is registered, we will test it for arsenic, lead, cadmium, and zinc (the "tested metals"). Thereafter, we will begin cleaning houses and soil in Zone 1A, around Spahr. Thereafter, we will begin cleaning the houses in Zone 1B and Zone 2, including areas such as Gypsy and Hepzibah. Thereafter, we will begin cleaning the houses in Zone 3, including areas such as Arlington, Lumberport, and Shinnston.

Completion of a Claim Form for each eligible property which has soil in Zone 1A which we confirm as part of the program will entitle the owner or owners to a five thousand dollar (\$5,000) payment. If there are multiple owners, the money will be shared equally among them. The money will be split into two payments, the first will consist of one thousand dollars (\$1,000) which will be paid at the time the Claim for the Zone 1A soil is verified, and the second payment will consist of

¹House, in this Order, includes permanent houses, commercial dwellings and mobile homes which are fit for human occupancy as defined by the Claims Administrator.

MONITOR AT 2011 15:54:31 12/26/2011 00:02:25 P 26
NOTICE: INFORMATION FOR ZONE 1A
JUN 21 2011 11:10:08 10147021

four thousand dollars (\$4,000) at the time the soil is tested for and remediated of hazardous contamination (if necessary). You get to keep the five thousand dollars even if based upon our test your soil does not need to be cleaned. You will receive the soil test results from us in writing.

If your soil is tested and deemed safe, you will receive a Certificate describing your property as safe. Alternatively, if the tested metal levels require soil clean-up, after your soil is cleaned and is safe, you will receive a Certificate of Completion describing your soil as safe.

WE CANNOT GUARANTEE THAT YOUR SOIL WILL BE CLEANED DUE TO LIMITED FUNDING. HOWEVER, EACH ZONE 1A PROPERTY VERIFIED AS ELIGIBLE WILL HAVE ITS SOIL TESTED FOR CONTAMINATED SOIL AND THE OWNER(S) OF THAT PROPERTY WILL RECEIVE FIVE THOUSAND DOLLARS (\$5,000) TOTAL AS AN ANNOYANCE AND INCONVENIENCE PAYMENT, FOR THAT PROPERTY. NOTE THAT SOIL CLEAN-UP IN ZONE 1A HAS THE FIRST PRIORITY IN THE PROGRAM.

We do not know if the soil clean-up in Zone 1A will become mandatory. We are first going to see how many people will voluntarily have their soil tested to see if it needs to be cleaned. Such voluntary participation will include the five thousand dollar (\$5,000) annoyance and inconvenience payment described above.

Additionally, the confidentiality rules for soil test results are as follows. First, if you decide to make your test results public, by checking the box on the Claim Form, your soil test results will be public. Second, if you choose to keep your soil test results confidential, and the results are negative, meaning your soil is safe and will not be cleaned, any adjoining land owner (i.e. next door neighbor) who signs a confidentiality agreement will be allowed to see the results, but to keep them confidential. If your soil test results are positive, meaning your soil must be cleaned, any adjoining land owner may request the results if they sign the confidentiality agreement, and if you agree, they will be provided to the adjoining land owner, but are to be kept confidential. If you do not agree, the issue will be decided by the Circuit Court.

The program does not provide any money for former owners of property in the Class Area. It also does not provide any money for testing for the so-called Grasselli properties. Finally, the program does not provide any reimbursement for owners of properties who claim to have renovated

their properties on their own. According to the Order, we must test each property to make sure that it is safe, even if the owner believes it to be safe and has already done some renovations or cleaning of the property.

There is no cash option instead of the program.

At the conclusion of the program, any leftover money will be distributed equally to the property owners who participate.

WE INVITE YOU TO THE JULY 11 TO 16, 2011 TOWN HALL MEETINGS DESCRIBED IN THE OTHER ENCLOSED LETTER. AT THE MEETINGS, WE WILL REVIEW THE PROGRAM IN DETAIL AND WILL BE AVAILABLE TO HELP YOU COMPLETE THE CLAIM FORM.

If you have any questions, please come by our office, call us, or send us a fax or an email.

Yours very truly,

Ed Gendie,
Claims Administrator
(304) 622-7443
(205) 716-3000
1-800-345-0837 (toll free)
permedupont@grandslaw.com

HOUSE AND SOIL CLEAN-UP PROGRAM REGISTRATION FORM

FERRINE DUPONT SETTLEMENT CLAIMS OFFICE
C/O SPELTER VOLUNTEER FIRE DEPARTMENT
55 B. ST., P.O. BOX 257, SPELTER, W.Va. 26438
1-800-345-0837 OR 1-304-622-7443 OR 1-205-716-3000
FAX: 1-304-622-7447 OR 1-205-716-3010
www.perrinedupont.com
perrinedupont@gtandslaw.com

THIS FORM ONLY APPLIES TO PROPERTY OWNERS OF ELIGIBLE PROPERTY WITHIN THE CLASS AREA¹, WITH A COPY OF THE CLASS AREA MAP AND OF THE EXCLUDED GRASSELLI PROPERTIES BEING ATTACHED.

THE PROPERTY CLEAN-UP PROGRAM DOES NOT APPLY TO THE GRASSELLI PROPERTIES (THAT ARE DEFINED IN THE COURT'S FINAL 2011 PROPERTY REMEDIATION (CLEAN-UP) PROGRAM ORDER).

A. TO QUALIFY FOR THE HOUSE CLEAN-UP PROGRAM, YOU MUST OWN A CLASS AREA HOUSE OR MOBILE HOME THAT IS FIT FOR HUMAN OCCUPANCY OR A CLASS AREA COMMERCIAL STRUCTURE THAT IS FIT FOR HUMAN OCCUPANCY AND REGULARLY OCCUPIED BY PEOPLE.

B. TO QUALIFY FOR THE SOIL CLEAN-UP PROGRAM, YOU MUST OWN PROPERTY IN ZONE 1A OF THE CLASS AREA. We have included a separate letter to Zone 1A Class Members with their copy of this Claim Form.

IF YOU DO NOT OWN CLASS AREA PROPERTY, PLEASE DO NOT COMPLETE THIS FORM.

YOU MUST COMPLETE AND SUBMIT THIS FORM BY OCTOBER 10, 2011, OR YOU WILL RECEIVE NOTHING FROM THE PROPERTY CLEAN-UP SETTLEMENT. THIS FORM IS TO BE PREPARED PER PROPERTY AND NOT PER PERSON. IF YOU OWN MORE THAN ONE ELIGIBLE PROPERTY YOU WILL NEED TO FILL OUT A CLAIM FORM FOR EACH PROPERTY.

¹ Court Orders pertaining to the clean-up program can be found on the settlement website www.perrinedupont.com. Please See Attached Class Area Map, and the attached map showing the excluded Grasseffi properties.

Please note that having more than one lot or parcel that are next to each other and assessed for property taxes together does not require filling out more than one Claim Form, because they are one property under the program. But, separately assessed properties are separate properties under the program. For example, if you own one eligible property in Shinnston and one eligible property in Spelter you will need to fill out two Claim Forms. But, if you own three lots next to each other in Spelter you only need to complete one Claim Form.

You may submit this Claim Form by mail, fax, email, or hand delivery. For help with this Claim Form, you may call 1-800-348-0837 OR 1-304-622-7443 OR 1-205-716-3000, visit our office in the Fire Department in Spelter (we are open Monday through Friday from 9:00 a.m. to noon, and 1 p.m. to 5 p.m.), or send us a fax or an email.

REQUIRED INFORMATION

- Below, please identify the Class Area property that you own. The following information is on the bill that the Harrison County Sheriff's Tax Office sends you every year for property taxes.²

District	Tax Map	Parcel(s)	Lot(s)
_____	_____	_____	_____

- You must attach to this Claim Form a current bill or receipt for property taxes to prove that you are the Owner of the property.

OWNERS' NAMES

WE MUST HAVE A COPY OF EACH OWNER'S PHOTO ID, SUCH AS A DRIVER'S LICENSE, ATTACHED TO THIS FORM

OWNER 1

First Name	Middle Initial	Last Name
_____/_____/_____	_____/_____/_____	_____/_____/_____
Date of Birth	Social Security Number ³	
_____/_____/_____	_____/_____/_____	

² It is also available at the website <http://harrison.softwaresystems.com:8363/?sm=ee>.
³ You must provide your social security number. If you do not provide a social security number, we cannot validate your claim, we cannot pay you anything, and we cannot clean-up your property.

OWNER 2

First Name _____ Middle Initial _____ Last Name _____
 Date of Birth _____ Social Security Number _____

OWNER 3

First Name _____ Middle Initial _____ Last Name _____
 Date of Birth _____ Social Security Number _____

OWNER 4

First Name _____ Middle Initial _____ Last Name _____
 Date of Birth _____ Social Security Number _____

CONTACT ADDRESS AND PHONE NUMBER(S)

This is the address where you will receive mail related to this Claim, and the phone number(s) we will use to call you about your claim. If you need to provide a second address, please attach a second sheet of paper.

Name or Names _____

Home Phone Number _____

Cell Phone Number _____

Street, Route, or P.O. Box _____

City _____ Zip Code _____

* If there are more than four owners of your property, please attach an additional sheet of paper to the form that lists the additional owner(s).

Please provide directions to your property. For example, if you live on Lamberts Run, please describe whether it's Upper or Lower Lamberts Run, and please provide directions to your property from the nearest main road.

SAMPLING, TESTING, AND REMEDIATION LICENSE AND AGREEMENT

1. The Owner(s) identified in this Claim Form hereby grants to the Perrine DuPont Settlement (the "Settlement") an irrevocable license to enter upon the real property identified in this Claim Form ("the Property") for the following purposes:

To carry out the house clean-up project in all zones of the Class Area, taking dust samples from the living space and attic and testing said samples for the presence of arsenic, cadmium, lead, and zinc (the "tested metals").

To carry out the soil clean-up project in Zone 1A only of the Class Area, taking soil samples from the Owner(s)'s property and testing said samples for the presence of the tested metals.

This license grants the Settlement, and its agents, servants, or employees, including general and sub-contractors, the right to enter the Property, remove the samples, and have the samples tested for the tested metals. House sample results (for all Class Area Zones) and soil test sample results (for Zone 1A only) shall be provided by the Settlement in writing to the Owner(s). Further, to the extent funds are available and the sample results show a tested metals level reasonably deemed hazardous to human health ("tested positive") by the Claims Administrator, so that remediation (clean-up) of the house (all zones) or soil (Zone 1A only) is necessary,

The Owners(s) grant the Settlement the right to remove tested metals from the Property, remove and replace contaminated materials, conduct intensive cleaning, and conduct follow up testing to confirm that tested metals contamination has been removed from the Property. Only Properties tested positive will be cleaned up. The Settlement agrees upon completion of remediation.

2. The Settlement agrees upon completion of the sampling and testing, and remediation (clean-up), if any is needed, to be performed pursuant to this agreement, that all Settlement materials and equipment shall be removed from the Property.
3. The Owner(s) shall advise the Settlement of any hazardous or potentially hazardous conditions that the Owner(s) is aware of that might reasonably be expected to be affected by the clean-up work to be performed.
4. Upon completion of sampling and testing, the Settlement will provide the results, in writing, to the Owner(s), as well as a letter describing whether the results indicate that a remediation (clean-up) of the Property is necessary.
5. The Settlement expressly does not guarantee that the Property will be remediated (cleaned) because there may not be enough money to remediate (clean) all the Property in the Class Area. Pursuant to the Property Remediation (Clean-Up) Program Order, the Settlement will provide a sampling and testing service to determine if the Property needs to be remediated (cleaned). After all of the sampling and testing is completed and paid for, and after all annoyance and inconvenience payments (described below) are made, the Settlement will remediate (clean-up) the soil in Zone 1A. Thereafter, to the extent funds are available, the Settlement will remediate (clean-up) the houses in Zone 1. Thereafter, to the extent funds are available, the Settlement will remediate (clean-up) the houses in Zone 2. Thereafter, to the extent funds are available, the Settlement will remediate (clean-up) the houses in Zone 3.
6. Clean-Up Annoyance and Inconvenience Payments.
 - A. For the House Clean-Up Program in the entire Class Area, as compensation for the annoyance and inconvenience caused by the registration, sampling, testing, and remediation (if necessary and funds are available) process, the Settlement agrees to pay one hundred dollars (\$100) to the Owner or Owners, jointly, at the time this Claim is verified as true and the Property identified herein is verified as eligible. Thereafter, at the time of sampling, testing and clean-up if the Property is tested positive, the Perrine DuPont Settlement agrees to pay four hundred dollars (\$400) to the Owner or Owners, jointly.
 - B. For the Soil Clean-Up Program in Zone 1A only, as compensation for the annoyance and inconvenience caused by the registration, sampling, testing,

and remediation (if necessary) process, the Settlement agrees to pay one thousand dollars (\$1,000) to the Owner or Owners, jointly, at the time this Claim is verified as true and the Property identified herein is verified as eligible. Thereafter, at the time of sampling, testing, and clean-up if the Property is tested positive, the Settlement agrees to pay four thousand dollars (\$4,000) to the Owner or Owners, jointly.

7. Optional Non-Zone 1A Soil Sampling. The property remediation program does not include the clean-up of soil outside Zone 1A. However, Owners of a Class Area Property outside Zone 1A can have it sampled, with the estimated sampling expense of \$_____ to be deducted from the above \$500 annoyance and inconvenience payment, by checking the below box (this is optional):

☐ SOIL TESTING OPTION FOR NON-ZONE 1A MEMBERS ONLY. BY CHECKING THIS BOX, I INSTRUCT THE CLAIMS ADMINISTRATOR TO SAMPLE THE PROPERTY SOIL FOR THE TESTED METALS AND TO PROVIDE ME THE CONFIDENTIAL RESULTS WITH MY \$500 INCONVENIENCE AND ANNOYANCE PAYMENT TO BE REDUCED TO \$_____, BUT WITH MY SOIL NOT TO BE CLEANED BY THE SETTLEMENT.

8. By signing this License and completing this Claim Form, the Owner(s) hereby certify, under penalty of prosecution for the felony of perjury, that the Owner(s) identified in this Claim Form are the only person(s) with any legal rights to the Property identified herein, and that no other person(s) have any legal rights to the Property identified herein, and that the house is fit for human occupancy (always applicable outside Zone 1A).
9. If the Owner(s) or their pets require a hotel or vet or pet sitter stay, or similar accommodation during the tested positive Property clean-up, then the Settlement shall pay such reasonable expenses. In order to concentrate the clean-up on needed areas, Owner(s) of tested positive Property will meet with a technician for the Settlement in order for the agent to collect necessary information.
10. For the Zone 1A soil clean-up (if applicable), a safe and practical approach will be used to excavate and replace the soil, using small equipment, such as mini-excavators; and skid steers to limit stress on foundations and buried utility lines. A safe working distance away from foundations and utility lines will be established. All buried utilities lines will be located before excavation commences. Soil removal, if needed, will only affect six inches of soil.

11. House test results will remain confidential. For Zone 1-A Class Members Only:
Do you want your soil test results:

- ☐ Public
☐ Confidential (private)

[Check one box only]

If you check the above confidential (private) box, if the soil test results are negative, they will be available to a contiguous land owner who signs a Claims Administrator Confidentiality Agreement. If they are positive, then a contiguous land owner can request them by completing the Confidentiality Agreement, and the Claims Administrator will request permission from the tested Class Member to release them. If the Class Member refuses, then the Court will address the issue at that time.

12. This License and Agreement and Claim Form constitutes the whole of the obligations of the Owner(s) and the Settlement respecting the property clean-up program, and no other agreements, whether oral or written, shall be binding or valid, except as provided herein.

I (we) verify under penalty of perjury that I (we) am (are) the only and the true owners of the above Property.

Signature	Print Name	Date
Owner 1		
Owner 2		
Owner 3		
Owner 4		

[Do not complete the below. For Settlement Staff only.]

VERIFICATION REVIEW:

This form is complete, the Class Area Property Owner(s) has (have) been verified, the house (always applicable outside Zone 1A) is fit for human occupancy, and the Property is ready to sample.

☐ ZONE 1A SOIL

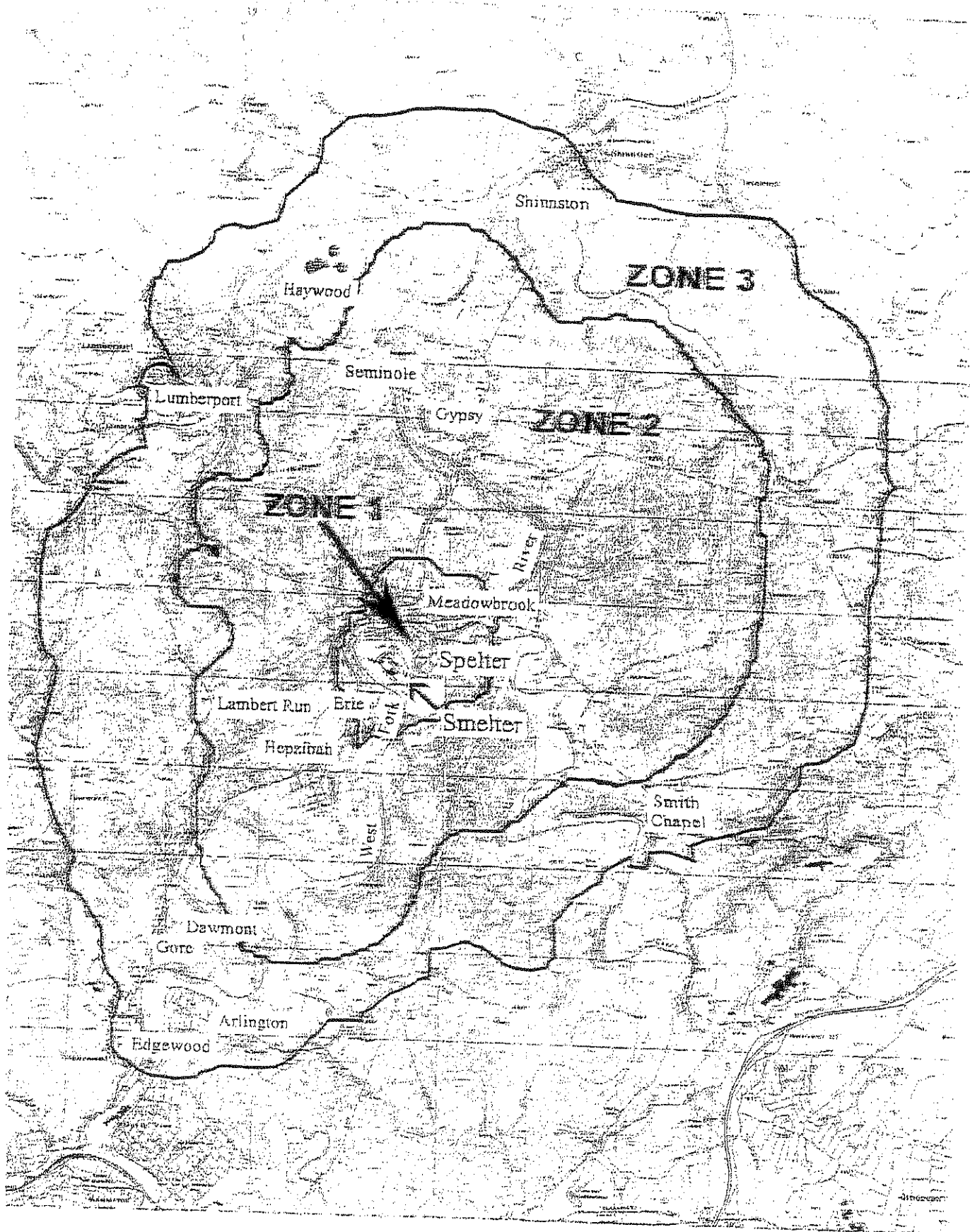
☐ HOUSE IN ZONE ____.

Staff Signature

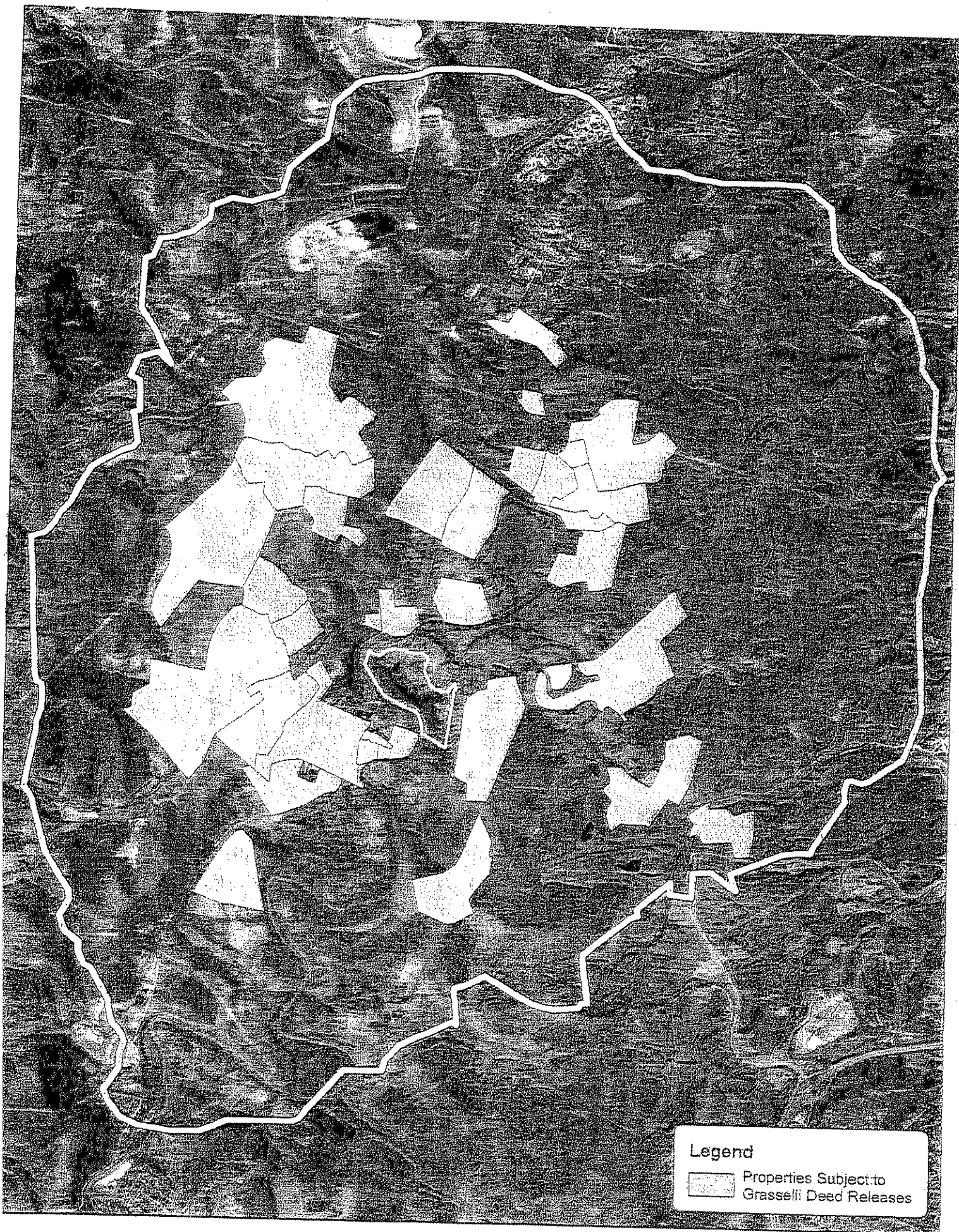
Staff Name

[Class Area Map and Excluded Grasselli Property Map are Attached]


**EXHIBIT B TO RFP:
CLASS AREA MAP**



**EXHIBIT C TO RFP:
EXCLUDED GRASELLI
PROPERTIES MAP**



Legend

 Properties Subject to
Grasselli Deed Releases

**EXHIBIT D TO RFP:
UNIFORM PRICE BID FORM**

PERRINE DUPONT SETTLEMENT REMEDIATION PROJECT

UNIFORM PRICE BID FORM

NAME OF FIRM: _____

DATE OF SUBMISSION: _____

Preamble

Class Member participation in the Settlement's remediation program is voluntary and on-going. Testing is on-going to determine the exact total number of properties that need to be remediated based on contamination levels and available limited monies. Accordingly, the final number of properties that need to be remediated is not finalized. Bid assumptions: (i) Soil: Assume that, for purposes of your bid only, the average property size for soil remediation is 1/3 of an acre and that 160 parcels of soil will be remediated to a depth of 6 inches in Zone 1A only of the Class Area (the immediate Spelter area around the old zinc smelter site). These properties are referred to below as the "Soil Properties." (ii) Houses: Assume that, for purposes of your bid only, 600 houses, averaging 1500 square feet, will be remediated throughout the Class Area, broken down by Zone as described below. See attached Class Area map.

A. Quality Assurance

1. Fixed Fee to develop Quality Assurance Project Plan, Health and Safety Plan, and/or any other Project documentation required by this RFP.

\$ _____

B. Soil Remediation

1. Per Soil Property price for remediation, as described in the RFP. At this time, the Settlement intends to remediate contaminated soil to a depth of 6 inches, to include soil excavation, loading, removal, and transportation of excavated soil to an acceptable disposal location, and purchase of and replacement with clean soil, import and placement of the clean soil from an approved off-site source, and property restoration.

\$ _____

2. Per Soil Property price for the soil property wrap-up sampling and laboratory analysis of the samples of the clean replacement soil after Remediation is complete for each Soil Property.

\$ _____

3. Per Ton price for disposal of contaminated soil (provide both hazardous and non-hazardous price scale) at an acceptable site.

(Non-Hazardous Per Ton Disposal Fee) \$ _____

(Hazardous Per Ton Disposal Fee) \$ _____

4. Total general costs for soil project charged on a Per Soil Property basis not included in 1, 2, or 3 (i.e. air quality monitoring, staging, etc.)

\$ _____

C. House Remediation (Complete Attached Worksheet Also)

1. Per House price for Remediation, Zone 1 Intensive Interior Remediation, per the Brown Expert Report attached to RFP (assume 235 houses).

\$ _____

2. Per House price for Remediation, Zone 2 Moderate Interior Remediation, per the Brown Expert Report attached to RFP (assume 210 houses).

\$ _____

3. Per House price for Remediation, Zone 3 Lesser Interior Remediation, per the Brown Expert Report attached to RFP (assume 155 houses).

\$ _____

4. Per House price for wrap-up sampling and laboratory analysis of the samples after house Remediation is complete for each house.

\$ _____

D. Other

1. Per Soil Property and per house price for removal and disposal of investigation derived waste and decontamination waste disposal fee (if any) and any other charges not included above.

(Per Soil Property Fee) \$ _____

(Per House Fee) \$ _____

E. Total Estimate

(A + B + C + D) (Assume 160 Soil Properties and 600 Houses
[with House per Zone breakdown above])

1. Total Project Estimate if you obtain the Entire Award (More than one Bidder may be chosen) NOT TO EXCEED FEE QUOTE

\$ _____

NOTE: All pricing shall be based upon the Request for Proposal Statement of Work and all unit costs must include labor, materials, travel costs, meals and incidental expenses, PPE costs, and project oversight/management, any applicable permit fees, with permitting being the Bidder's responsibility. All analytical fees shall include sampling materials, containers, preservatives, shipping & handling charges, stock items, and all consumables. Although this bid is based upon the above assumptions, the Bidder agrees to be flexible and to maintain the above unit prices unless the assumption numbers or amounts vary by more than 20%.

PLEASE COMPLETE ATTACHED HOUSE WORKSHEET

HOUSE WORKSHEET ATTACHED TO EXHIBIT D

House Bidding Assumptions For Purposes of Bid Only:

- Average sq. ft./House = 1,500 sq. ft, and 600 Houses to be Remediated.

INSTRUCTIONS:

For cleaning activities, it would be best to bid a lump sum by type of structure and zone. For repairs it will be best to bid by linear or square foot, please see the instructions below under each category. Please see the Dr. Brown Cost estimates provided in Exhibit E which provide cost calculations based on linear feet or square feet as applicable. The Settlement does not have specific knowledge of the accuracy of these estimates. They are provided for informational purposes only.

ATTIC CLEANING AND SEALING (BY SQUARE FOOT)

Structure Type	Task Description	Unit Price to Complete
Zone 1, 2, 3 Attic (1) - Accessible (75% of Residences)	Remove Insulation via Vacuum Truck, Clean Attic w. HEPA Vacuum, seal/repair cracks, Encapsulation with sealants, install new insulation.	

Structure Type	Task Description	Unit Price to Complete
Zone 1, 2, 3 Attic (2)- Inaccessible (25% of Residences)	Removal of ceiling to access attic, , Remove Insulation via Vacuum Truck, Clean Attic w. HEPA Vacuum, Replace ceiling with Drywall and finish, install insulation, paint ceiling.	

CARPET CLEANING OR REPLACEMENT (BY SQUARE FOOT FOR REPLACEMENT, BY MAN HOURS FOR CLEANING)

Structure Type	Task Description	Unit Price to Complete
Zone 1 and Zone 2 Residence Carpet	Remove and replace bonded carpet and padding, Install new carpet and pad.	

Structure Type	Task Description	Unit Price to Complete
Zone 3 Residence Carpet	Thorough HEPA Vacuum Carpet (8 man hrs)	

Structure Type	Task Description	Unit Price to Complete
Zone 1 and Zone 2 Trailer Carpet	Remove and replace bonded carpet and padding, Install new carpet and pad.	

Structure Type	Task Description	Unit Price to Complete
Zone 3 Trailer Carpet	Thorough HEPA Vacuum Carpet (4 man hrs)	

Structure Type	Task Description	Unit Price to Complete
Zone 1 Commercial Bldg Carpet	Remove and replace bonded carpet and padding, Install new carpet and pad.	

Structure Type	Task Description	Unit Price to Complete
Zone2 and Zone 3 Commercial Bldg. Carpet	Thorough HEPA Vacuum Carpet (4 man hrs)	

FURNITURE CLEANING (BY MAN HOUR)

Structure Type	Task Description	Unit Price to Complete
Zone 2 and Zone 3 Residence Furniture Cleaning (per house)	Thorough HEPA Vacuum all upholstered furniture (8 man hours)	

Structure Type	Task Description	Unit Price to Complete
Zone 2 and Zone 3 Trailer Furniture Cleaning (per trailer)	HEPA Vacuum Furniture	

Structure Type	Task Description	Unit Price to Complete
Zone 2 and Zone 3 Commercial Bldg. Furniture Cleaning (per building)	HEPA Vacuum Furniture	

BASEMENT CLEANING AND REPAIRS (BY SQUARE FOOT)

Structure Type	Task Description	Unit Price to Complete
Zone 1 House Basement (per House)	Hepa Vacuum, wipe surfaces, seal/ repair cracks	

Structure Type	Task Description	Unit Price to Complete
Zone 2 and Zone 3 Basement (per House)	Hepa Vacuum, wipe surfaces, seal/ repair cracks	

HVAC DUCT (BY LINEAR FOOT) AND FILTER REPLACEMENT

Structure Type	Task Description	Unit Price to Complete
Zone 1, 2 ,3 Residential HVAC Ducts (per house)	Remove and Replace Ducts, Replace Furnace Filter	

Structure Type	Task Description	Unit Price to Complete
Zone 1, 2 ,3 Trailer HVAC Ducts (per trailer)	Remove and Replace Ducts, Replace Furnace Filter	

Structure Type	Task Description	Unit Price to Complete
Zone 1, 2 ,3 Commercial Bldg. HVAC Ducts (per building)	Remove and Replace Ducts, Replace Furnace Filter	

NOTE FOR INTERIOR CLEANING IT IS HARD TO DIFFERENTIATE THE LEVEL OF EFFORT AND THEREFORE BASIS FOR DIFFERENCE IN UNIT COSTS. ONLY SOLUTION IS SETTLEMENT TO SPECIFY MAN HOURS FOR BIDDING PURPOSES. THIS INFO IS FOUND IN THE BROWN REMEDIATION COSTS INCLUDED WITH THE BROWN 2007 Report –EXHIBIT E, AND MAY BE USED IN COMPLETING THE FOLLOWING TABLES. THE SETTLEMENT DOES NOT HAVE SPECIFIC KNOWLEDGE OF THE ACCURACY OF THESE ESTIMATES. THEY ARE PROVIDED FOR INFORMATION PURPOSES ONLY.

INTERIOR CLEANING (UNIT PRICE AND ESTIMATED MAN HOURS PER UNIT)

Structure Type	Task Description	Unit Price to Complete
Zone 1 House Interior Cleaning and Repairs (per House)	Thorough cleanup of surfaces, windows, doors, corners, personal property staged exterior to house, repair cracks/seal, paint walls	

Structure Type	Task Description	Unit Price to Complete
Zone 2 House Interior Cleaning and Repairs (per House)	Thorough cleanup of surfaces, windows, doors, corners, personal property staged exterior to house, repair cracks/seal, paint walls	

Structure Type	Task Description	Unit Price to Complete
Zone 3 House Interior Cleaning (per House)	Thorough cleanup of surfaces, windows, doors, corners, personal property staged exterior to house, repair cracks/seal, paint walls	

Structure Type	Task Description	Unit Price to Complete
Zone 1 Trailer Interior Cleaning (per House)	Thorough cleanup of surfaces, windows, doors, corners, personal property staged exterior to trailer, repair cracks/seal	

Structure Type	Task Description	Unit Price to Complete
Zone 2 Trailer Interior Cleaning (per Trailer)	Thorough cleanup of surfaces, windows, doors, corners, personal property staged exterior to trailer, repair cracks/seal	

Structure Type	Task Description	Unit Price to Complete
Zone 3 Trailer Interior Cleaning (per Trailer)	Thorough cleanup of surfaces, windows, doors, corners, personal property staged exterior to trailer, repair cracks/seal	

CEILING TILE REPLACEMENT (BY SQUARE FOOT)

Structure Type	Task Description	Unit Price to Complete
Acoustic Ceiling Tile (per square foot)	Remove, Dispose and Replace Acoustic Ceiling Tile	

GENERATED WASTE DISPOSAL

Activity	Task Description	Unit Price to Complete
Generated Waste Disposal per structure (All Zones/Each Structures)	Disposal of all generated wastes, recovered insulation, carpet, PPE, discarded construction materials, recovered interior dusts	<p>_____ per yard</p> <p>OR</p> <p>_____ per ton</p>

POST REMEDIATION CONFIRMATORY SAMPLING

Activity	Task Description	Unit Price to Complete
Post-Remediation Confirmatory Sampling (All Zones/Each Structure)	Confirm Sampling after 90 days, Total of (6) Surface Wipe and (4) Carpet Vac samples, 6010 or 6020 Metals Analysis (As, Cd, Pb, Zn), Labor, Shipping	

**EXHIBIT E TO RFP:
KIRK W. BROWN, Ph.D. REPORT
AND REMEDIATION COST CALCULATIONS**

IN THE CIRCUIT COURT OF
HARRISON COUNTY, WEST VIRGINIA

LENORA PERRINE, CAROLYN HOLBERT,)
WAUNONA MESSINGER, REBECCA)
MORLOCK, ANTHONY BEEZEL, MARY)
ELLEN MONTGOMERY, MARY LUZADER,)
TRUMAN R. DESIST, LARRY BEEZEL, and)
JOSEPH BRADSHAW, individuals residing)
in West Virginia, on behalf of themselves and)
all others similarly situated,)

Plaintiffs,)

vs.)

Case No. 04-C-296-2

E.I. DU PONT DE NEMOURS AND)
COMPANY, a Delaware corporation doing)
business in West Virginia, MEADOWBROOK)
CORPORATION, a dissolved West Virginia)
corporation, MATTHIESSEN & HEGELER)
ZINC COMPANY, INC., a dissolved Illinois)
Corporation formerly doing business in West)
Virginia, NUZUM TRUCKING COMPANY,)
a West Virginia corporation, T. L. DIAMOND)
& COMPANY, INC., a New York corporation)
doing business in West Virginia, and JOSEPH)
PAUSHEL, an individual residing In West)
Virginia,)

Defendants.)

EXPERT REPORT
OF
KIRK W. BROWN, PH.D.


(Signature)

April 2, 2007

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION.....	1
1.1 PERSONAL BACKGROUND/QUALIFICATIONS	1
1.2 PRIOR EXPERT TESTIMONY	2
1.3 COMPENSATION	2
1.4 EXHIBITS.....	3
1.5 RESERVATION OF RIGHTS	3
2.0 DATA OR OTHER INFORMATION CONSIDERED.....	3
3.0 SITE BACKGROUND	4
3.1 SITE HISTORY AND OPERATIONS	4
3.2 ADJACENT COMMUNITIES.....	4
3.3 WASTE CHARACTERIZATION AND COMPOSITION.....	5
3.4 WIND DISPERSION AND TRANSPORT	6
4.0 SOIL SAMPLING.....	8
5.0 HOUSE DUST SAMPLING.....	8
6.0 INDOOR AIR QUALITY SAMPLING RESULTS	9
6.1 COMPARISON TO NAAQ STANDARDS.....	9
6.2 COMPARISON TO ON-SITE AIR SAMPLING DURING REMEDIATION.....	10
7.0 DATA HANDLING.....	10
7.1 REMOVAL OF OUTLIERS.....	10
7.2 CORRECTION FOR BACKGROUND CONCENTRATIONS	11
7.3 DATA CORRELATION	13
7.4 LIMITATION OF FIELD MEASURED AIR CONCENTRATIONS	15
8.0 FINGERPRINT OF WASTES.....	15
8.1 COMPARISON THROUGHOUT CLASS AREA	16
9.0 RISK DUE TO SMELTER METAL CONTRIBUTION	17
10.0 REMEDIATION STRATEGY	19
10.1 ELIGIBILITY	19
10.2 DESIGNATION OF REMEDIATION ZONES.....	20
10.3 SOIL REMEDIATION.....	20
10.4 INTENSITY OF REMEDIATION.....	21
10.5 PRECEDENCE FOR REMEDIATION	24
10.6 REMEDIAL COSTS	25
11.0 OPINIONS AND BASIS OF OPINIONS.....	25

11.1 SOURCE OF CONTAMINATION	25
11.2 AREA-WIDE IMPACT.....	25
11.3 EXPOSURE PATHWAYS.....	26
11.4 RISK.....	26
11.5 NECESSITY FOR REMEDIATION.....	26
11.6 REMEDIATION REQUIRED.....	26
11.7 REMEDIATION COSTS.....	27

INDEX OF TABLES

<u>Table</u>	<u>Description</u>
Table 1	Summary of Dust Sample Results

INDEX OF FIGURES

<u>Figure</u>	<u>Description</u>
Figure 1	Site Map
Figure 2	Wind rose
Figure 3	Dust Sampling Locations
Figure 4	Remediation Zones

INDEX OF APPENDICES

<u>Appendix</u>	<u>Description</u>
Appendix 1	Resume with Listing of Publications Authored
Appendix 2	Listing of Previous Testimony at Trial and Deposition
Appendix 3	Documents Relied upon for Preparation of this Report
Appendix 4	Statistical Correlation Procedures
Appendix 5	Waste Characterization Analysis
Appendix 6	Risk Assessment

1.0 INTRODUCTION

I have been retained by the firm of Levin, Papantonio, Thomas, Mitchell, Echsner, & Proctor on behalf of the plaintiffs in this matter to provide my professional opinions concerning the need for remediation and restoration of the properties including soils and structures within the class area ("CA"), the extent of the impact of the toxic metals, the incremental contribution of metals to the CA as a result of the smelter operations, the cancer risk to class residents, the extent of remediation needed, and the remediation costs. I reserve the right to update my analysis as other witnesses, including opposing experts, provide additional data for my review.

1.1 Personal Background/Qualifications

From 1970 through 2001, I was employed as a Professor of Soil and Crop Sciences in the Soil and Crop Sciences Department, Texas A&M University, College Station, Texas. My educational background includes a Bachelor of Science degree in Agronomy from Delaware Valley College (1962), Masters of Science degree in Agronomy/Plant Physiology from Cornell University (1964), and Doctor of Philosophy degree from University of Nebraska (1969). My résumé is attached as Appendix 1. It includes my complete list of publications.

While a member of the faculty at Texas A&M University, I have conducted numerous research efforts. As a result of this research, I have authored or co-authored more than 190 scientific articles including numerous articles dealing with the disposal and treatment of waste materials, including Resource Conservation and Recovery Act ("RCRA") hazardous wastes and metals including arsenic, cadmium, lead and zinc contained therein and the problems arising therefrom. I have conducted numerous research projects for the U.S. Environmental Protection Agency ("EPA") on the fate and transport of contaminants, including RCRA hazardous wastes and Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") hazardous substances, in the environment. I also served on panels for EPA, where I reviewed the fate and transport of hazardous substances as well as risk assessment procedures for development of EPA's Hazardous Ranking Score for Superfund Sites.

I have conducted research in a national center funded by the EPA to study the fate of hazardous substances in the environment. I taught courses in Soil Physics which include topics

on the movement of air, water, and other fluids in the soil, and a graduate course on the land disposal of wastes, which includes consideration of the principles and practices applicable to the fate, mobility, risk, and clean-up of contaminated sites. Students in these classes included engineers, soil scientists, chemists, and geologists. I have served on hundreds of advanced degree committees in these and related disciplines.

I founded K. W. Brown and Associates, Inc. in February 1980, and served as President through January 2000. In January 2000, SI Group, LP ("SI Group") purchased the consulting interests of K. W. Brown and Associates, Inc. and I am currently retained as a principal consultant to this firm. Through these years of consulting, I have been employed by numerous private and public clients. My expertise has been utilized for site assessments, data review and interpretation, the study of fate and transport of contaminants in the environment, air dispersion of dust, assessment of exposure concentrations, calculation of health risks and other related environmental matters. I have also reviewed and interpreted a large quantity of analytical data for soils, dust, air, and water, as well as borings logs, field logs, technical reports, and other information related to the environmental conditions of a site. As a consultant, I have evaluated or analyzed numerous waste disposal and landfill sites including the following: Laurel Park Landfill, Beacon Heights Landfill, Lone Pine Landfill, Ft. Bend County Landfill, and Sinton Landfill, among others. In addition, I have also worked on the following Superfund sites: Hardage Criner, Love Canal Landfill, Lowrey Landfill, Montana Pole, National Gypsum, Riley Tar, Sharon Steel, Metal Bank of America, Sikes Pits, Turtle Bayou, Tar Creek, Boarhead Farms, and the West Dallas Lead Site.

1.2 Prior Expert Testimony

A list of cases in which I have rendered opinions is included in Appendix 2.

1.3 Compensation

My company is being compensated at customary rates for its work in these cases. My hourly rate of compensation is \$300 per hour for non-testimony time and \$350 per hour for testimony time.

1.4 Exhibits

I may use as exhibits any document contained or referred to in this report, or supplements to this report, including but not limited to the appendices; any document needed as foundation for or illustration of my testimony; any document listed as an exhibit or provided in discovery by Plaintiffs or any other party; any document considered by any of the Plaintiffs' or any other party's experts; or any document needed to respond to or to rebut testimony on behalf of Defendants or any other party. I reserve the right to provide lists of exhibits as permitted by the West Virginia Rules of Civil Procedure and the Scheduling Orders in this case.

1.5 Reservation of Rights

I reserve the right to supplement or modify opinions expressed herein upon which I expect to testify, to add to or modify the bases and reasons for my opinions and supplement the exhibits that I may use at trial for any of the following reasons: (1) to respond to expert reports, including but not limited to rebuttal reports, conducted for Defendants or for any other party; (2) to respond to new information; (3) to respond to information obtained in discovery, including but not limited to depositions and interviews; and (4) as permitted by West Virginia Rules of Civil Procedure.

2.0 DATA OR OTHER INFORMATION CONSIDERED

This report was developed as a result of discovery of data, which I have obtained or has been provided to me by counsel. As part of my work in this matter, I visited the CA and conducted field investigations on three occasions. As a result of these field activities, I am intimately familiar with the characteristics of and the hazardous substances contained in the soils and indoor dust located throughout the CA (SI Group, 2005a, SI Group, 2005b, SI Group, 2007). Previously, I have prepared two expert reports, which detail my opinions of the former smelter and the communities within the CA (Brown, 2005; Brown, 2006), which were submitted to the Court on November 11, 2005 and February 28, 2006. I have also provided deposition testimony on my opinions in this matter on January 25-26, 2006 and February 10, 2006. The opinions I have formed in this case are based on my education and experience listed in Section 1.0, as well as the information listed in Appendix 3.

3.0 SITE BACKGROUND

3.1 Site History and Operations

The former DuPont smelter began operations in 1911 and continued through 2001. The smelter is situated in the northeast portion of Harrison County, roughly seven miles north of Clarksburg, West Virginia, on the banks of the West Fork River in the unincorporated town of Spelter (Figure 1). The smelter is bounded by the West Fork River bluff on the north, west, and southwest sides and abandoned rail lines on the north and east.

The smelter began operating as a primary zinc smelter in 1911. Slab zinc was produced in 8 horizontal retort coal-fired furnaces from 1916 through 1930. In 1929, sixteen vertical retort furnaces were constructed and became operational in 1930 (Morrison, 1964). In 1951, the plant was upgraded and modernized with numerous modifications. Upgrading and modernization continued through the 1960s including the construction of a 175-foot stack in 1964 (Morrison, 1964). In 1971, the smelter was converted into a secondary smelting facility and continued to operate until 2001.

Site restoration activities included demolishing the smelter and most onsite buildings along with removing the debris for off-site disposal (W-C Diamond, 2000a). Additional dust containing toxic metals was released to the air during demolition and remedial activities (DPZ0011344 – DPZ0011472). On-site excavation removed contaminated soils and debris, which were placed on the smelting operation residue pile. The pile's dimensions, as measured in August of 1971, were approximately 40 feet deep by 600 feet wide by 2,600 feet long for a total volume of approximately 2,300,000 cubic yards of waste materials (SPEPUB05684). The residue pile with the excavated waste materials was capped and closed in 2004 (Sperduto, 2003).

3.2 Adjacent Communities

The towns of Spelter, Meadowbrook, and Erie adjoin the smelter with the communities of Gypsy, Seminole, Lumberport, Lambert's Run, Smith Chapel, and Haywood among others located within the CA. These communities consist primarily of residential dwellings with a small component of commercial facilities. Based on the statistics provided in the June 2000 Site Characterization Report (W-C Diamond, 2000b), an estimated 3000 residents live within one

mile of the smelter. Many of the homes in the northeast portion of Harrison County date back to 1906 and have been exposed to contaminated dust from the smelter and the facilities' residue pile throughout their existence.

3.3 Waste Characterization and Composition

From the beginning of operations at the smelter, smoke, dust and fumes were emitted from the furnaces used for smelting zinc. As indicated by H. A. Gronomeyer, the plant superintendent for the smelter, fumes, smoke, and dust were emitted to the air and were deposited on the surrounding land surface (SPEBAR00919; SPEBAR00924; SPEBAR00929). A study conducted in 1919 by Bear and Morgan, documented the widespread distribution of zinc from the smelter. In their study Bear and Morgan (1919) interviewed residents, collected soil samples, conducted phytotoxic testing on plants, and conducted assessments of vegetation and livestock. The conclusion of the study indicated that zinc from the smelter had contaminated a wide area which included the CA. Further, in the matter of *Bartlett v. Grasselli Chemical Company*, the plaintiffs established that airborne emissions from the smelter contained zinc, arsenic, and other metals which were deposited on the soil and caused injury to the health of the residents living near the smelter (SPEBAR00172 - SPEBAR00178).

Smoke from the smelter stack was observed in aerial photographs of the facility dated April 23, 1939, April 8, 1955, October 22, 1967 and April 5, 1970 (USEPA, 1996). Later reports, including the inspection reports prepared for the WVAPCC, detail the characteristics of the emissions from the retort furnaces as light to dense white smoke, comprised of zinc oxides and other materials (Lee, 1975; Pride, 1984a; Pride, 1984b; Huss, 1974; Pellerite, 1975). The smoke plumes were noted to trail from the stack at distances up to 1/4 mile on days with light or calm wind conditions (Mullins, 1975) indicating the off-site dispersion of particulates to the surrounding communities. Given the operations of the smelter over the period from 1906 through 2001, the smelter emitted metal contaminated dust and produced wind-blown residue materials and smoke throughout the neighboring communities for over 90 years.

An estimated three million tons of residue material, which were produced at the facility, were disposed of in the residue pile that covered approximately 50 acres in the south and southeastern portions of the site. The highest point of the residue pile was just over 120 feet

from the base of the pile (W-C Diamond, 2000b). The residue pile was mainly composed of silt and sand-sized particles but included waste materials up to three inches in diameter (W-C Diamond, 2000b).

The ore and coke used to charge the retorts and furnaces were very finely ground, producing a very small particle size in the residue and waste produced by the smelter (Amter, 2006 and references cited within). This residue from the retorts was highly friable due to the low temperatures of operation at the smelter (Amter, 2006) and would result in residue materials that were highly susceptible to wind erosion and transport when placed on the residue pile. As indicated in the report of Steven Amter (2006), for operations where the hot residue was removed from the retort and placed on the residue pile, the hot waste materials would burn, producing smoke of very fine particle sizes which was dispersed throughout the CA. The burning and smoking of the residue pile was a continuous source of emission from the initiation of operations through the remediation of the site (Beard, 1970; Pellerite and Dicken, 1977; Pellerite and Lee, 1977; W-C Diamond, 1999).

An investigation of the site by the US Department of Health and Human Services and the Agency for Toxic Substances and Disease Registry in 1995 indicated elevated concentrations of toxic metals in the residue pile. Lead concentrations in the residue pile ranged from 400 to 6,100 milligrams per kilogram ("mg/kg"). Arsenic and cadmium concentrations ranged from 320 to 3,500 mg/kg and 4.2 to 1,400 mg/kg, respectively. Zinc concentrations ranged from 23,000 mg/kg to 55,000 mg/kg (ATSDR, 1996). As part of the remedial investigation ("RI") conducted in 2000, dust samples from the main smelter building were analyzed and found to contain arsenic, cadmium, lead, and zinc at elevated concentrations. The concentration of arsenic ranged from 17.7 mg/kg to 74.0 mg/kg, cadmium ranged from 97.8 mg/kg to 3,830 mg/kg, lead ranged from 440 mg/kg to 20,500 mg/kg, and zinc ranged from 180,000 mg/kg to 571,000 mg/kg (W-C Diamond, 2001b).

3.4 Wind Dispersion and Transport

Wind was a major factor in transporting and dispersing the emitted dust from the smelter and the residue pile. Wind also acted as a scouring agent, dislodging fine particulates containing toxic metals from the residue pile for transport. Particulates emitted from the smelter stack, bag

house, and retort buildings as well as the waste pile were blown as dust onto the properties and into homes throughout the CA. As a result of this wind blown dust, the homes and properties, including accessible surfaces such as indoor floors, furniture, play areas and toys, patios, driveways, railings, plants, lawns and bare soils were contaminated with toxic metals from the site.

A wind rose diagram showing the direction and frequency of wind speeds for the weather station at Clarksburg, West Virginia is presented in Figure 2. Based on the wind rose diagram, the predominant wind direction was from the west-southwest; however, the wind blew from all points of the compass at wind speeds ranging from calm to approximately 20 miles per hour. Due to the friable nature of the retort residue, all structures and properties within the CA have been invaded by wind blown dust and smoke from the site.

Two separate air dispersion modeling studies have been conducted for the smelter and the adjacent area. As part of their work in this matter, Environmental Health and Engineering, Inc. ("EH&E") conducted air dispersion modeling using the CALPUFF model (Earth Tech, Inc., 2000), which accounted for the complex terrain in the vicinity of the former smelter (EH&E, 2005; EH&E, 2006). The distribution of particulate matter deposition depicted by EH&E's modeling effort, demonstrated that the deposition of particles occurred across and throughout the CA. The deposition rate of the model was nearly linearly related with emission rate and the distribution of particulate matter deposition does not change with emission rate. In their report, EH&E stated, "the air dispersion modeling shows a pattern of deposition that is consistent with the pattern of the metal concentrations measured in the soil sampling conducted by Dr. Flowers" (EH&E, 2006).

Similarly, air dispersion modeling using the ISC model conducted by the USGS (Crimi, 2005) indicated distribution of particulate matter and metals from the former smelter throughout the CA. Though not as sensitive to elevation differences and terrain, the ISC model predicted a broad deposition pattern across Harrison County, including the CA. This deposition pattern, coupled with the modeling conducted by EH&E and the downwind sampling and monitoring conducted by the USGS (Goldhaber, et al., 2004) clearly shows the impact of emissions from the former smelter throughout the CA.

4.0 SOIL SAMPLING

During February and June 2005, soil sampling was conducted by Dr. George Flowers at representative locations within the CA (Flowers, 2005a; Flowers, 2005b). For his assessment, Dr. Flowers collected 1,068 shallow surface soil samples and completed a series of eight shallow soil borings within the town of Spelter to determine the maximum depth of metal contamination in the soils. In addition, Dr. Flowers collected 150 samples from an unimpacted background area located approximately 16.3 miles southwest of the CA.

Based on the background samples, Dr. Flowers determined the 95% upper confidence limit soil background concentration of arsenic was 8.8 mg/kg with background concentrations of 0.5 mg/kg for cadmium, 25 mg/kg for lead, and 88 mg/kg for zinc.

5.0 HOUSE DUST SAMPLING

SI Group conducted indoor dust sampling events in June 2005, August 2005 and January 2007. The results from these sampling events were reported in "Preliminary Report, Dust Sampling in Spelter, West Virginia, June 2005" (SI Group, 2005a), "Dust Sampling in Harrison County, West Virginia, June and August 2005" (SI Group, 2005b) and "Final Report, Dust Sampling in Harrison County, West Virginia, June 2005, August 2005 and January 2007" (SI Group, 2007). The dust sampling locations are illustrated in Figure 3.

Four different types of dust samples were collected from a total of 100 property locations during the three sampling events. The types of dust samples included bulk attic dust samples; bulk living space dust samples; area specific, living area dust wipe samples; and wipe living space dust samples. Bulk attic dust samples were collected from 82 of the 100 properties. A total of 100 bulk living space dust samples were collected from 85 of the 100 properties.

Area specific, living area wipe samples were collected from either windowsills or floors in the living space. A standardized template was used for collection of samples from floors and windowsill sample areas were measured following sample collection. Area specific, living area wipe samples were collected from 19 of the 100 properties.

A total of 53 wipe samples of dust were collected from the living space at 26 of the 100 sampling locations. All wipe living space dust samples were analyzed to provide the metal content in the dust.

Analytical results of the dust samples are summarized in Table 1. All bulk dust sample results were compared to the 95% upper confidence limit of soil background concentrations (Flowers, 2005a) and the WVDEP residential standards for metals in soil. The arsenic, cadmium, and lead results from the area specific wipe samples and the wipe samples of dust from the living space were compared with the dust sample results presented in the Region 3 National Human Exposure Assessment Survey ("NHEXAS") conducted by the EPA, Office of Research and Development from 1995 to 1997 (USEPA, 1995) and 40 CFR 745.

6.0 INDOOR AIR QUALITY SAMPLING RESULTS

Air particulate samples were collected during the dust sampling events in June 2005, August 2005, and January 2007 (SI Group, 2005a; SI Group, 2005b; SI Group, 2007). Particulate samples were collected through the use of personal air samplers worn by field personnel during dust sampling. Analyses of the particulate samples were performed for arsenic, cadmium, lead, and zinc, in order to determine the concentration of toxic metals in the indoor ambient air and compare the air-borne metal concentrations with the EPA National Ambient Air Quality Standards (NIOSH, 1990).

6.1 Comparison to NAAQ Standards

The concentration of arsenic exceeded the National Ambient Air Quality ("NAAQ") standard of 0.00041 micrograms per cubic meter (" $\mu\text{g}/\text{m}^3$ ") in 47 of the 100 sampled locations. The arsenic concentrations ranged from below detection limits to 7.6 ug/m^3 . The concentration of cadmium in 35 of the 100 sampled locations exceeded the NAAQ standard of 0.00099 ug/m^3 . The cadmium concentrations ranged from below detection limits to 5.7 ug/m^3 . The concentration of lead in 58 of the 100 sampled locations exceeded the NAAQ standard of 1.5 ug/m^3 . The lead concentrations ranged from below detection limits to 46.3 ug/m^3 . Zinc was detected in 95 of the 100 sampled locations. However, the concentrations of zinc did not exceed the NAAQ standard of 1,100 ug/m^3 .

6.2 Comparison to On-site Air Sampling During Remediation

Beginning on September 26, 1998 and ending on December 10, 1998, Corporate Remediation Group conducted high volume air sampling at the site during remediation. Arsenic, cadmium, lead, and zinc, as well as total suspended particulates ("TSP") concentrations were determined for each sample collected from September 26 to November 30, 1998 (DPZ 0011344 – DPZ 0011472). The maximum concentrations of arsenic, cadmium, lead, zinc, and TSP were found to be 0.0184 ug/m^3 , 0.0636 ug/m^3 , 0.166 ug/m^3 , 37.1 ug/m^3 , 91.8 ug/m^3 , respectively, with the maximum concentrations of arsenic and cadmium in excess of the respective NAAQ standards (W-C Diamond, 1999).

On the basis of exposure concentrations, the concentration of metals in the indoor air samples greatly exceeded the risk-based standards developed for air exposure during the on-site remediation of the smelter. The concentration of arsenic in the air samples collected by SI Group exceeded the maximum concentration reported by the Corporate Remediation Group for arsenic at 47 of the 100 sample locations, with the maximum reported concentration for arsenic of 7.6 ug/m^3 . For cadmium, of the 100 locations sampled by SI Group, 35 had concentrations of cadmium greater than the maximum concentration reported by the Corporate Remediation Group with the highest level of cadmium measured at 5.7 ug/m^3 . For lead, SI Group samples exceeded the maximum value collected by Corporate Remediation Group at 87 of the 100 sample locations. The highest level of lead found by SI Group was 46.3 ug/m^3 . Zinc values measured by SI Group exceeded the maximum value collected by Corporate Remediation Group at 20 of the 100 sample locations. The maximum reported concentration for zinc by SI Group was 533 ug/m^3 . The measured indoor air sample concentrations indicated that the exposure to metals was accentuated in the confined spaces of the homes of the CA.

7.0 DATA HANDLING

7.1 Removal of Outliers

In keeping with a conservative approach to data analysis, outlying observations which exhibited extreme values, on the high end, but not the low end, were examined for removal from the dataset. The definition of an outlier for the purposes of analysis is "an observation that

appears to deviate markedly in value from other members of the sample population in which it appears" (ASTM, 2002). The American Society for Testing and Materials ("ASTM") Standard E 178-02 was used to identify and remove the outlying observations. The data was entered into a Microsoft Excel spreadsheet and analyzed using the mathematical functions provided by the software. Following the ASTM standard, the subsequent formula was applied to each measurement in the dataset:

$$\text{Test Criterion} = \frac{(\text{Observed Measurement} - \text{Mean of Dataset})}{\text{Standard Deviation of Dataset}}$$

The resulting test criterion statistic was then compared to the respective critical t-value based on the number of recorded observations identified in Table 1 of ASTM Standard E 178-02. If the test criterion exceeded the value of the critical t-value for 5% upper significance, the measured value was identified to be an outlier and was therefore removed from the dataset. As a result of truncating the data in this manner, the mean of the dataset was effectively lowered and further statistical analysis of the dataset produced more conservative results. A listing of data points removed as outliers is provided in Table 4-1 of Appendix 4.

7.2 Correction for Background Concentrations

The comparison of house dust metal concentrations with background data has no relevance in determining toxicity or exposure. Toxicity is based on the total concentration of metals in the dust and is not mitigated by the fact that the observed concentrations are similar to those found elsewhere. In the NHEXAS study, EPA presented no correlation between concentration and risk-based exposure (USEPA, 1995).

Throughout this proceeding, the Defendants' experts have claimed multiple sources, both native and anthropogenic, other than the former smelter have been responsible for contributing metals to the contaminated soils and house dust. In order to account for the non-smelter related metal concentrations, I determined the incremental contributions of metal exposure from smelter operations within the CA. Each category of sample type was calculated using the average soil background levels to adjust for each type of sample and metal. In this manner, the measured

concentrations were adjusted to remove the background concentrations leaving the exposure concentrations representative of smelter operations.

For this assessment, I utilized the mean soil background concentrations from the report of Dr. Flowers (2005a) and the protocols developed by EPA (USEPA, 1994).

Mean Soil Background Levels (mg/kg)	
As	8.2
Cd	0.36
Pb	24
Zn	84

For the soil sample concentrations, the adjusted soil concentration was determined by subtracting the mean soil background concentration from each of the measured or observed soil concentrations using the following formula:

$$\text{Incremental Soil Concentration} = \text{Measured Concentration} - \text{Mean Soil Background Level}$$

For the living bulk dust sample concentrations, the adjusted living bulk dust sample concentration was determined by subtracting the mean soil background concentration multiplied by a factor of 70% (0.70) from each of the measured living bulk dust sample concentrations. My adjustment of the living bulk dust sample concentrations by 70% of the mean soil background level, followed the established protocol by EPA (USEPA, 1994) to determine the contribution of metals present in the indoor bulk dust from the soil. The adjusted living bulk dust sample concentration for each location was calculated using the following formula:

$$\text{Incremental Bulk Dust Concentration} = \text{Measured Concentration} - (\text{Mean Soil Background Level} * 0.70)$$

For cases where 70% of the mean soil background level exceeded the measured living bulk dust sample concentration, a value of zero (0.0) was recorded for the adjusted living bulk dust sample concentration.

For the attic bulk dust sample concentrations, the adjusted attic bulk dust sample concentration was determined by subtracting the mean soil background concentration from each of the measured attic bulk dust sample concentrations using the following formula:

Incremental Bulk Dust Concentration = Measured Concentration – Mean Soil Background Level

Adjusted attic bulk dust concentrations were calculated in a similar fashion to the adjusted soil concentrations due to both media having similar exposure to airborne emission.

For the attic air sample concentrations, the adjusted attic air sample concentration was determined by multiplying the measured air concentration by the ratio of the adjusted attic bulk dust sample concentration to the measured attic bulk dust sample concentration. For this assessment, the ratio of adjusted bulk dust to observed bulk dust for each given sample location was utilized to determine the air concentrations for that specific sample location. In this manner, I have accounted for the accumulation of metal concentrations due to the native soil and secondary sources at each individual location. The adjusted attic air sample concentration was calculated for each location using the following formula:

$$\text{Incremental Air Concentration} = \frac{\text{Measured Concentration} * (\text{Adjusted Attic Bulk Dust})}{\text{Measured Attic Bulk Dust}}$$

Similar to the attic air sample concentrations, the adjusted living air sample concentration was determined by multiplying the measured living air concentration by the ratio of the adjusted living bulk dust sample concentration to the measured living bulk dust sample concentration. For this assessment, the ratio of adjusted bulk dust to observed bulk dust for each given sample location was utilized to determine the air concentrations for that specific sample location. In this manner, I have accounted for the accumulation of metal concentrations due to the native soil and secondary sources at each individual location. The adjusted living air sample concentration was calculated for each location using the following formula:

$$\text{Incremental Air Concentration} = \frac{\text{Measured Concentration} * (\text{Adjusted Living Bulk Dust})}{\text{Measured Living Bulk Dust}}$$

7.3 Data Correlation

In their previous reports, the Defendants' experts have suggested that my results were biased because more samples were collected in Spelter close to the smelter than at greater distance from the smelter (Shields, 2006). In this report, I have presented the sample results

from three separate sampling events conducted in the CA. The first sampling event included 15 homes from the community of Spelter only. In the second event, a total of 72 homes were sampled in a radial distribution from the smelter. For the third sampling event, a total of 26 homes were sampled from Spelter and extending to the boundary of the CA. I intentionally collected samples from all points of the compass extending from the smelter with distance into the CA, focusing on the populated areas around the smelter.

In order to account for the perceived sampling bias, I correlated the measured soil and dust concentrations from the sampling events with the deposition rate predicted at the grid nodes of EH&E's air dispersion model (EH&E, 2005; EH&E, 2006). The objective of this analysis was to develop a uniform distribution of metal concentrations in each media across the CA. For my analysis, I correlated the measured zinc concentrations in each media with the zinc deposition rate from the model. Similarly, I correlated the measured cadmium and lead concentrations in each media with their respective deposition rates. For the case of arsenic, I used the deposition rate for lead since EH&E did not model the deposition of arsenic, but stated that the lead deposition rate was a representative surrogate for arsenic. By using this methodology, I was able to predict a representative concentration of metals in the soils, house dust and indoor air for each property location within the CA. A summary of the statistical correlations and the data input files are presented in Appendix 4. Contour plots of the correlated concentrations for the exposure of arsenic, cadmium, lead, and zinc in the soils, attic dust, living area dust, attic air, and living area air are presented in Figure 4-1 through Figure 4-20 in Appendix 4. Contour plots of the background adjusted correlated concentrations for the exposure of arsenic, cadmium, lead, and zinc in the soils, attic dust, living area dust, attic air, and living area air are presented in Figure 4-21 through Figure 4-40 in Appendix 4.

The use of statistical correlations is a commonly used methodology for predicting trends and gradients in large populations (Ott and Longnecker, 2001; PFC, 2007). This methodology is a conservative approach to data interpretation in that the predicted values from the correlation trend toward the mean of the data set, thus reducing the variability of the data and the frequency of occurrence for abnormally high and low data values. This approach was also conservative in that the correlation under-predicted the concentration values because the high-end, outlier data was removed. The statistical correlations with the air dispersion model deposition rates are to be

expected because the field measured metal concentrations have been associated with the emissions from the source contributing the metals.

7.4 Limitation of Field Measured Air Concentrations

Due to the short duration of air sample collection and the limited volume of particulate material collected with each air sample, a portion of the air samples had metal concentrations below the method detection limit of the analytical procedure. The attic air sample dataset and the living area air sample dataset both contained a number of samples that were below the analytical detection limit for arsenic and cadmium.

A number of different approaches were considered to estimate the values of the non-detects from the detectable data. For my assessment, I first considered that the non-detect values could be calculated from the metal ratios (Zn:As and Zn:Cd) in the bulk dust of a given location. It was then possible to apply these ratios to the measured air concentrations for zinc in order to calculate concentrations of arsenic and cadmium. Secondly, by using the average metal ratios (Zn:As and Zn:Cd) from the detectable air samples, I was able to calculate concentrations for arsenic and cadmium by multiplying these ratios to the measured zinc concentrations. Thirdly, I substituted one half of the detection limit for all values below the detection limit as recommended by EPA (USEPA, 2000). As stated by EPA, "If the data are used to develop an emission factor, half of the limit of detection is typically substituted for BDL [below detection limit] results" (USEPA, 2007).

From my assessment, calculations for the non-detect values using metal ratios from both the measured air data and the bulk dust data generated concentrations above the detection limit for certain sampling locations. So instead of using either of these methods, I chose to use the EPA protocol for substitution of one half of the detection limit for values of air concentrations of arsenic and cadmium which were reported below the detection limits.

8.0 FINGERPRINT OF WASTES

The feedstock used by the facility when it was operated as a primary zinc smelter contained arsenic, cadmium, lead, and zinc. The waste materials produced by the retorting and

smelting processes and disposed in the residue pile also contained these metals. For the soil and dust samples collected from the CA, all samples contained concentrations of each of the four metals. As such, the qualitative fingerprint of metals was present throughout the CA. From a quantitative perspective, the concentrations of all four metals in the soil and house dust were detected at enriched concentrations relative to the 95% upper confidence limit of the background concentrations in the soil.

8.1 Comparison throughout Class Area

As shown in Figures 5-1 through 5-4 of Appendix 5 and Figures 5-5 through 5-8 of Appendix 5 for the bulk attic dust and the bulk living space dust respectively, the concentration of these metals in the homes decrease with distance in all directions from the smelter. These plots clearly show that the smelter was the source of the elevated concentration on these metals in homes throughout the CA.

The commonality of the source of the metals in the dust in the homes is also demonstrated by the ratio of metals in the bulk dust in the attics. As shown in Figures 5-9 and 5-10 of Appendix 5, the ratios of Zn:Cd in the attic dust and the bulk living space dust were independent of distance from the smelter. Although the concentration of all metals decreased with distance from the smelter, the independence of the metal ratios from distance demonstrated that the smelter was the source of the metals.

The distribution of the Zn:Cd ratios for bulk attic dust did not differ significantly from the distribution of Zn:Cd ratios in the bulk living space dust, and the distribution of the Zn: Pb ratios for bulk attic dust did not differ significantly from the distribution of Zn:Pb ratios in the bulk living space dust. These results clearly demonstrate that the metals in the living space are from the same source as the contaminants in the attic. Furthermore, the continued presence of elevated levels of hazardous metals found in dust samples from the living space of these homes, years after the smelter has been closed and remediated, indicates an ongoing source of exposure to metal contamination in the living space of these homes.

The decreased concentration with distance from the smelter for all metals combined with the similarity of metal ratios found in the attic and living space indicates that the dust in the attic

is an ongoing source of metal contamination in the living space throughout the CA. This evidence clearly indicates the need to remove the contaminants from the attics in the homes in the CA.

9.0 RISK DUE TO SMELTER METAL CONTRIBUTION

To characterize potential health effects, the probability that an individual will develop cancer over a life-time of exposure was calculated from the exposure concentrations of arsenic and cadmium presented in Appendix 4. The risk calculations were based on the EPA standard protocol of a 30 year exposure duration averaged over a lifetime of 70 years (USEPA, 1989) and chemical-specific cancer uptake slope factors (USEPA, 2006). As stated in the Risk Assessment Guidance for Superfund (USEPA, 1989), a linear low-dose cancer risk caused by exposure to one chemical through an individual pathway is expressed as:

$$\text{Risk} = \text{CDI} \times \text{SF}$$

where CDI is the chronic daily intake expressed in milligrams per kilogram per day ("mg/kg-day"), and SF is the cancer uptake slope factor expressed in kilogram day per milligram ("kg-day/mg"). For my assessment, I developed a framework for conducting the risk analysis which included a diagram of the potential pathways of exposure shown in Figure 6-1 of Appendix 6. The algorithms used in my analysis of risk are described in detail in Appendix 6. A contour plot of the calculated risk for each pathway is presented in Figure 6-2 through Figure 6-8 of Appendix 6.

As part of my assessment, I characterized the cancer risk due to exposure from arsenic ingestion and inhalation and cadmium inhalation based on the analytical results of the onsite data collected during the previous three sampling events. For the risk characterization, I considered only the pathways of exposure that have been universally accepted as intake sources known to cause cancer. Although there is a substantial amount of epidemiological evidence that the ingestion of cadmium (IARC, 2007c; NIOSH, 2007) and the uptake of lead can cause cancer (IARC, 2007a; IARC, 2007b), I only considered the pathways for which the evidence was irrefutable (Figure 6-1). By limiting this assessment to the cancer risk from the ingestion of

arsenic and the inhalation of arsenic and cadmium, I have developed a minimum risk level for each of the properties within the CA.

The risk incurred by exposure to indoor dust should be based on the total mass of metal in the dust and not adjusted for background dust concentrations. There are numerous documents and published papers, such as "Risk Assessment Guidance for Superfund" (USEPA, 1989) and IEUBK Model (USEPA, 1994) that provide reference to guide the risk assessment for exposure to indoor dust. None of these documents provide any reference to the concept that the exposure and risk caused by exposure to indoor dust should be adjusted or diminished due to comparison with the background concentration levels.

Regardless, the Defendants' experts (Rodricks, 2006a) have suggested that only the incremental contribution of metals from the smelter should be considered for property damages and increased health effects risk. In response to the Defendants' suggestions, I calculated the cancer risk resulting from the ingestion of arsenic and the inhalation of arsenic and cadmium based on the background adjusted concentrations of arsenic and cadmium in the soils and house dust to provide a measure of risk due to the incremental contribution of metals from the smelter (Figures 6-9 through 6-15 in Appendix 6).

Once the risk for each pathway was determined, the combined risk for each metal across the individual exposure pathways was determined by taking the sum of the cancer risks for each exposure pathway contributing to exposure of the same individual. An aggregate risk for the combination of risk due to arsenic and cadmium was calculated as the sum of the risk for each metal. As explained by EPA, "although the exact equation for combining risk probabilities includes terms for joint risks, the difference between the exact equation and the approximation described is negligible for total cancer risk of less than 0.1" (USEPA, 1989). For example, the on-site risk assessment for the remediation of the former smelter presented a cumulative cancer risk which was calculated as the sum of the individual cancer risk from all pathways of exposure (W-C Diamond, 2001). Further, Dr. Rodricks, the Defendants' expert indicated in his testimony (Rodricks, 2006b) that the risks from different pathways and from different metals can be added when the target organs are the same.

As shown in Figures 6-16 through 6-21 of Appendix 6, my calculations of both total and incremental risk, demonstrated that all residents within the CA have been and are exposed to elevated concentrations of arsenic and cadmium in the dust from the smelter that would pose a significant risk to human health. For comparison purposes, I also present the total cancer risk calculated from the measured dust concentrations (Figure 6-22 of Appendix 6). The calculated risk from the measured concentrations exceeds the risk calculated from the correlated data and as shown in Figure 6-22, all of the properties within the CA have a cancer risk greater than or equal to 1×10^{-4} , with approximately 70% of the CA at a risk greater than 1×10^{-3} .

The minimum cancer risk due to the incremental exposures of arsenic and cadmium is greater than 1×10^{-5} , the cancer risk-based criteria proposed by Dr. Werntz, for all properties within the CA. Based on the incremental concentration of metals from the smelter, approximately 54% of the CA has a cancer risk greater than 1×10^{-4} and approximately 2% of the area within the CA has a cancer risk greater than 1×10^{-3} . The calculated risk levels within the CA exceed the range of cancer risk recommended by EPA (USEPA, 1989).

10.0 REMEDIATION STRATEGY

As part of my assessment, I was asked to develop a plan and strategy to remediate the properties within the CA to minimize the metal concentrations for exposure and thus mitigating the risk of cancer. The objective of this strategy was twofold. First, the purpose of the remedial actions is to remove to the greatest extent practicable, all soil and dust contamination, which would pose a cancer risk greater than 1×10^{-5} (Werntz, 2007). Secondly, the purpose of the remedial actions was to encapsulate or seal any residual contamination that could possibly be suspended and transported into the living areas of the homes within the CA. By eliminating and isolating the sources of dust within the homes, the adverse risk to the residents of the CA can be abated.

10.1 Eligibility

For the purposes of remediation, all properties within the CA were classified, based on the property use codes provided with the Harrison County tax records (Greenfield, 2007). In order to be eligible for remedial actions, I considered only the properties with residential

— dwellings and commercial/industrial buildings constructed prior to 2005, the completion of the on-site remediation of the smelter facility. I further classified the commercial/industrial properties based on the types of industry and the potential daily exposure for occupants of the building. Based on these criteria, the number of properties within the CA that are eligible for remediation is approximately 3,500.

10.2 Designation of Remediation Zones

Based on the risk due to the incremental contribution of metals from the smelter, the properties within the CA were subdivided into three zones for remediation. Remediation Zone 1 consists of all areas within the CA with a cancer risk greater than 5×10^{-4} (Figure 4). Remediation Zone 2 incorporates all properties within the CA with a cancer risk between 5×10^{-4} and 1×10^{-4} . Remediation Zone 3 includes all properties within the CA with a cancer risk greater than 7×10^{-5} , but less than 1×10^{-4} .

10.3 Soil Remediation

— Based on the recommendation by Dr. Wernitz (2007), an incremental risk of 1×10^{-5} was used as the risk-based criteria for soil remediation following the EPA protocol for determining substantial difference (USEPA, 2002b). As shown in Figure 6-8 of Appendix 6, the soil concentrations of arsenic associated with a cancer risk greater than 1×10^{-5} fall within an approximate 285-acre area of Remediation Zone 1. This subset area, designated as Remediation Zone 1A will be excavated to a depth of 6 inches and replaced with clean backfill to mitigate the risk associated with soil exposure to arsenic. The area outside of Zone 1A but within the boundary of Zone 1 is designated Remediation Zone 1B and will not be subject to soil remediation. In addition, the excavation and removal of soil to reduce the risk due to arsenic will also remove lead contamination from Zone 1A.

— The necessity for remediation in Zone 1A is due in part to two factors, the direct ingestion of soil, particularly for infants and children, and the potential for re-contamination of the indoor living space of remediated houses. The concentration of arsenic associated with an incremental cancer risk of 1×10^{-5} was determined to be 12.5 mg/kg (4.3 mg/kg for the 1×10^{-5} risk plus the mean background concentration of 8.2 mg/kg). Based on the relationships developed by

EPA (USEPA, 1994) for the cross-contamination of indoor dust and air by soil, the concentration of arsenic in the house dust would be 70% of the soil concentration (8.75 mg/kg) which is associated with a 1.5×10^{-6} cancer risk. Further, with an indoor dust concentration of 8.75 mg/kg, the predicted indoor air concentration of arsenic would be $0.09 \mu\text{g}/\text{m}^3$, which is associated with a 1.4×10^{-4} cancer risk. For the residents within Zone 1A, remediation of the soil is necessary to mitigate this incremental cancer risk due to soil exposures of arsenic.

10.4 Intensity of Remediation

For the remediation strategy, eligible properties with structures in each of the three remediation zones will be remediated to mitigate exposures to metals causing unacceptable risk. The level or intensity of remediation will be dependant on the location of the property within the CA. The residential houses within Remediation Zone 1 will receive an intensive interior physical remediation, including remediation of attics, replacement of carpets and upholstered furniture, and a thorough professional cleaning of all surfaces in the living spaces and basements of the home in addition to structural repairs to mitigate transport of contaminated dust into the living space. Mobile homes in Zone 1 will receive the same intensity of remediation as the residential house except for remediation activities associated with attics and basements. Eligible non-residential properties will receive a thorough professional cleaning with structural repairs to mitigate transport of contaminated dust.

For properties within Remediation Zone 2, eligible structures will receive a moderate interior physical remediation to remove all sources of contaminated dust practicable and structural repairs to prevent recontamination of the interior from any residual unabated sources. In Remediation Zone 3, eligible structures will receive a professional interior cleaning to mitigate sources of contamination and reduce the exposure to cancer causing metals.

Many of the houses originally had exterior surfaces covered with lapped boards. Later, various types of siding have typically been applied to houses. Board siding is notoriously porous, and metal contaminated dust would have penetrated the surface and is trapped between the studs in the walls. Rather than removing the interior or exterior wall covering to remove the contamination, the interior surface of the wall should be repaired and sealed. This should be

done to cracks in the plaster, holes around electrical fittings, gaps around windows and door frames, and other cracks where dust can find its way from the wall cavity into the living spaces.

Thorough professional cleaning of the home interiors will be needed to remediate the houses. This consists of cleaning all the contents and all the surfaces in the houses. Cleaning is to be done using a HEPA vacuum, followed by a wet detergent wash, and a second HEPA vacuuming. The second vacuuming is needed to remove the particles dislodged by the wet washing. In instances where dirt is still visible, repeated washing and vacuuming will be needed. The cleaning is to include ceilings, light fixtures, fans, HVAC vents, doors, windows, door and window frames, walls, stairs, railings, electrical outlets, baseboards, cupboards, cabinets, sinks, appliances, including all surfaces of stoves, refrigerators, washing machines, dryers, HVAC units, dehumidifiers, space heaters, etc., as well as floors. Basements will be cleaned similarly, with particular attention paid to the top of exposed walls between floor joists, the top of pipes, wires, HVAC ducts, beams, and other locations which are prone to accumulate dust.

Since large volumes of air have passed through the HVAC system and ducts, these must also be cleaned and sealed or replaced. Since the cost of cleaning and sealing ducts exceeds the cost of replacement, all HVAC ductwork will be replaced. Cleaning of the HVAC unit will include intake ducts, grills, registers, diffusers, heat exchangers, cooling coils, drip pans, fan motors, and fan housings to minimize future discharge of toxic metals into the homes.

Porous furniture in the homes in Zone 1 is to be removed and replaced. In Zones 2 and 3, porous furniture is to be professionally cleaned. Drapes, blinds, shades, and other window treatments are to be professionally cleaned or removed and replaced as appropriate.

Dust containing metals from the smelter must be removed from the attics of the homes in the CA to prevent exposure to the residents. This will be done by removing bat insulation and using a truck-mounted vacuum system to remove loose insulation and dirt. Following cleaning, the attics will be sprayed with a sealer and reinsulated.

Exposure to dust in the attic results from people going into the attic, exchange of air and thus dust between the attic and living space, and instances where the ceiling below the attic is breached. Ceilings below an attic may be breached deliberately when electrical or sound

systems are installed or modified, when HVAC ducts are installed or modified, or when a ceiling is removed for replacement as part of a remodeling activity. Ceilings are also breached occasionally as a result of storm damage to roofs, water leaks from water heating or supply systems, or as a result of failure of the fasteners, which hold the ceiling up. Occasionally also, people entering an attic will step on the plaster, causing it to collapse.

Breaches of ceilings contaminated with hazardous metals will result not only in immediate exposure to the occupants of the house, but also spread dust throughout house which will cause an on-going exposure. A case in point was House No. 122, which had been partially renovated. As part of the renovation, the resident had removed the ceiling in the living room. He reported that black soot-like dust fell out of the ceiling when the plasterboard was removed the previous year. The concentrations of arsenic, cadmium, lead, and zinc in the bulk living space dust sample collected from this house are among the greatest concentrations found in any house.

In instances where it is not possible to gain access to the upper surface of the ceiling from the attic, it will be necessary to remove the ceilings in order to remove the accumulated dust. Such ceilings, which are either against the roof rafters, or where the attics have been enclosed to create a living space, will then need to be removed to gain access to the dust.

Some of the houses which have greater than nine (9) foot ceilings have been retrofitted with drop ceilings typically consisting of 2 ft x 4 ft tiles in tracks suspended from wires. Typically, the original ceilings were tongue and groove boards, which have deteriorated and have gaps or openings between the boards. Black dust typical of that found in the attic was seen on the ceiling tiles. Thus, in those instances, the porous tiles will need to be removed and replaced and the original ceiling may need to be repaired to prevent future exchange between the attic and the living space.

Mobile homes and eligible commercial/industrial buildings will be professionally cleaned with carpets removed and replaced. All cracks and crevices in the walls, ceilings, and floors will be caulked and sealed to encapsulate residual dust. As with other properties within the same remediation zone, all HVAC ductwork will be replaced with new filters installed for each location.

10.5 Precedence for Remediation

The remedial strategy described follows the protocol established by EPA at similar Superfund sites. For example, at the Jacobs Smelter Superfund site, located in Stockton, Utah, a remedial option that included excavation and off-site disposal of contaminated soil was used. According to the EPA Record of Decision ("ROD") for the site, 90 houses were remediated, along with alleys, right-of-ways, construction of ditches, and asphalt paving. The total cost, including unidentified construction costs and construction management expenses, was \$13,627,649 (USEPA, 1999). These figures yield an estimated cost per house of \$151,418. At the Davenport and Flagstaff Smelters Superfund site, the selected remedy included excavation, disposal and placement of clean soil in residential lots, replacement of selected roads, and landscaping of remediated areas. The cost estimate presented in the ROD for the site was based on 20 lots requiring remediation and identified a total cost of \$11,871,927 (USEPA, 2002a), yielding a unit cost per house of approximately \$593,596. Finally, at the Omaha Lead Superfund site in Omaha, Nebraska, the selected remedial option involved excavation of soils at residential-type properties, child-impact areas, and at properties with a child exhibiting an elevated blood-lead level; exterior lead-based paint stabilization; high-efficiency interior cleaning; and health education. The ROD presented a cost estimate based upon the assumption that 50% of residences where soil remediation is conducted, voluntary exterior lead-based paint stabilization and interior cleaning will be performed. With a total of 5,600 houses requiring soil remediation and the assumed 2,800 houses volunteering for the exterior lead-based paint stabilization and interior cleaning, the total remediation cost was \$77,370,700 (USEPA, 2004). Therefore, the cost per house of homes receiving only soil remediation was \$13,205.60 and the cost per house of homes receiving soil remediation and exterior lead-based paint stabilization and interior cleaning was \$14,205.60.

According to the ROD published by the USEPA for Palmerton Zinc Pile Superfund Site (Operable Unit 3), the contingent remedy is a combination of excavation, potential in-situ treatment of soil, re-vegetation, interior house cleaning, and possible carpet removal and replacement (Alternative 5A/3). It was assumed that no more than 2/3 of the properties eligible for interior cleaning would require carpet removal and replacement. The cost estimated in the ROD is based on 778 residences in Palmerton and 252 residences out of the Borough requiring

soil remediation and interior cleaning and the assumed 690 residences (approximately 2/3 of 1,030 houses) also requiring carpet replacement (USEPA, 2002c). The total cost listed in the ROD is \$14,883,120 (USEPA, 2002c). The cost per house is therefore determined to be \$16,446.10 per house requiring exterior remediation, interior cleaning and carpet removal and replacement and \$10,398.10 per house eligible for soil remediation and interior cleaning.

10.6 Remedial Costs

Based on the multiple tasks described above that are required for remediation of the structures within the CA, unit costs were developed to account for the labor and materials required to complete the remediation. The unit costs for materials and equipment required for the remediation strategy were prepared based on a per square foot cost which can be readily scaled to accommodate the differences in size between structures. Similarly, the soil remediation costs were developed to be scaled to fit any size property. For costing purposes, labor costs have been consolidated to maximize the efficiency and utilization of the workforce, while minimizing down-time between remediation locations.

The total project cost estimated for the remediation of the CA was approximately \$71,000,000, which represents a cost per eligible structure of approximately \$20,000.

11.0 OPINIONS AND BASIS OF OPINIONS

11.1 Source of Contamination

It is my opinion to a reasonable degree of scientific certainty that the former DuPont smelter is the principal source of arsenic, cadmium, lead, and zinc in the contaminated soils and house dust in the CA. Further, it is my opinion that alternative sources of arsenic, cadmium, lead, and zinc cannot account for the massive loading of metals observed in the CA.

11.2 Area-wide Impact

It is my opinion to a reasonable degree of scientific certainty that the toxic metals from the smelter have invaded and contaminated all properties and structures within the CA.

11.3 Exposure Pathways

It is my opinion that the ingestion of arsenic from the house dust in the living areas and attics and ingestion of arsenic from the soils of the CA are significant pathways of exposure to the individuals living in the CA. Further, it is my opinion that the inhalation of arsenic and cadmium from the air in the living areas and attics of residences within the CA are significant pathways of exposure to the individuals living in the CA.

11.4 Risk

It is my opinion that the dust containing arsenic, cadmium, lead, and zinc, which were deposited both indoors and outdoors during the time the smelter was in operation, provides an ongoing source of exposure and an unacceptable level of risk to structures in the CA constructed prior to 2005.

It is my opinion that the incremental contribution of metals from the former smelter resulted in concentrations of metals in the soils and house dust at levels which pose an unacceptable risk to the residents of the CA.

11.5 Necessity for Remediation

It is my opinion to a reasonable degree of scientific certainty that the contaminated soils and structures within the CA require remediation to reduce the risk resulting from metals from the smelter. As indicated in Section 9.0, my calculations of both total and incremental risk, demonstrated that all residents within the CA have been and are exposed to elevated concentrations of arsenic and cadmium in the dust from the smelter that would pose a significant risk to human health. Other than remediation, the only acceptable alternative for mitigation of risk to the residents is to leave the CA permanently and never return.

11.6 Remediation Required

It is my opinion that remediation of the CA must be designed to remove and/or encapsulate the source of dust containing metals in the houses. Further, it is my opinion that remediation of the CA must be designed to remove soils which cause an unacceptable risk and can recontaminate the remediated houses. As indicated in Section 10.4, dust containing toxic

metals is present throughout the structures and remediation of the structures must account for all of the locations in which dust from the smelter has invaded the property. If the remediation is incomplete or not thorough, recontamination of the structure will occur with time thus exposing the occupants again to unacceptable risks.

11.7 Remediation Costs

It is my opinion to a reasonable degree of scientific certainty that the estimated cost to remediate all of the eligible properties within the CA will be approximately \$71,000,000. This estimated cost includes the cost of remediation, coordination, and remediation oversight; the cost for temporary relocation of residents during the remediation; the cost for removal and temporary storage of personal belongings and furnishings from the structures to be remediated; and the cost savings associated with the economy of scale for implementation of remediation on a class-wide basis.

Melissa Cooper

From: escrowagen@aol.com
Sent: Tuesday, January 10, 2012 9:15 AM
To: Melissa Cooper
Subject: Fw: BROWN Remediation Cost Calculations
Attachments: Brown Remedial Cost Calculations.pdf

Oad n print

Sent via BlackBerry by AT&T

From: Marc Glass <marc@ciraconsulting.com>
Date: Tue, 10 Jan 2012 09:51:56 -0500
To: Mike Jacks<mjacks@gtandslaw.com>; <bsublett@gtandslaw.com>;
EscrowAgen@aol.com<escrowagen@aol.com>
Subject: BROWN Remediation Cost Calculations

Ed, Mike, Billy,

Please find attached a pdf of the Brown Remediation Cost Calculations. This appears to have been originally composed as excel or some other type of worksheet. I assume this was an Appendix or Attachment to one of Brown's reports, most likely 2007.

It provides explicit detail of the level of effort (labor and material) envisioned by the Brown Cleanup Strategy for remediation of each type of structure and property by class area. Same for soils.

Marc

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Unit Costs for Remediation

Unit Costs

Attic	Cost	Unit	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	Environmental Rental Services and Vacuum Truck Rentals
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	pg 216, item 1100
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	pg 25, item 7655
Labor to vacuum, remove the insulation and clean	\$26.70	per hour	pg 602, crew A-2
Encapsulation with sealants, ceilings and walls, minimum	\$0.48	per sq. ft.	pg 404, item 0100
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	pg 403, item 0200, 0250
Removal of plaster on ceiling, on wood lath	\$0.95	per sq. ft.	pg 286, item 1000
Drywall gypsum plasterboard, nailed or screwed to studs, 5/8" thick, on walls, standard, taped and finished	\$1.18	per sq. ft.	pg 293, item 2050

Carpet	Cost	Unit	Reference
Carpeting removal, bonded, including surface scraping	\$0.33	per sq. ft.	pg 286, item 0400
Pad for new carpet	\$0.91	per sq. ft.	pg 306, item 9200-9300 (average)
Carpet (commercial grade, nylon, level loop, 26 oz., light to medium traffic)	\$2.56	per sq. ft.	pg 306, item 0700
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	pg 25, item 7655

Furniture	Cost	Unit	Reference
Furniture (upholstery-living area) removal	\$26.75	per hour	pg 602, crew A-2
Labor to vacuum and clean	\$26.70	per hour	pg 602, crew A-2
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	pg 25, item 7655
Furniture (upholstery-living area) replacement	\$2,283.00	living room set (sofa, love seat, table)	Living Room Sets with Tables, FurnitureOnTheWeb.com

Unit Costs for Remediation

Basement	Cost	Unit	Reference
Decontaminate and clean up irregular surfaces at basement	\$1.28	per sq. ft.	pg 403, item 0250
Labor to vacuum and clean	\$26.70	per hour	pg 602, crew A-2
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	pg 25, item 7655

HVAC Ducts	Cost	Unit	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	pg 466, item 1920

Furnace and Filter	Cost	Unit	Reference
Furnace filter replacement	\$9.00	ea.	Filtera.com

Thorough Professional Cleaning	Cost	Unit	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	pg 25, item 7655
Removal, clean and pack of belongings, 24 man hours	\$26.70	per hour	pg 602, crew A-2
Temporary Storage, 1 month	\$122.00	per month	Public Storage, http://www.publicstorage.com/estimate/ssEstimateResults.aspx
Labor to vacuum and clean	\$26.70	per hour	pg 602, crew A-2

Repairs	Cost	Unit	Reference
Caulk seams with latex	\$2.03	per lineal ft	pg 402, item 0800

Paint	Cost	Unit	Reference
Paint walls (oil base, primer or sealer coat, smooth finish, brushwork or roller)	\$0.37	per sq. ft.	pg 317, item 0200

Unit Costs for Remediation

Disposal of wastes generated	Cost	Unit	Reference
Rubbish handling, dumpster, 20 cu yd	\$440.00	per week	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment

Sampling	Cost	Unit	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn)	\$90.00	per sample	Laboratory
Labor costs on sampling	\$50.00	per hour	Environmental Services Personnel
Air sampler	\$95.00	per week	Ajax Environmental & Safety Supplies
Dry Calibrator	\$45.00	per week	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes	\$50.00	per box (200)	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette	\$65.00	per box (50)	Ajax Environmental & Safety Supplies

Distribution of Literature	Cost	Unit	Reference
paper and printing	\$1.58	per page	http://www.copy-corner.com/price.html
Folding (machine fold)	\$15.00	per thousand brochures	http://www.copy-corner.com/price.html
Mailing	\$0.39	per brochure	USPS, standard first-class rate (1 oz)
Time to locate pertinent information and write literature	\$75.00	per hour for environmental scientist (approx 40 hrs to complete task)	*assume \$75/hr bill rate for environmental scientist, 40hrs to complete task and approximately 7000 houses receiving literature

Unit Costs for Remediation

Relocation (2 people, 4 weeks)		Cost	Unit	Reference
Hotel accomodations		\$67.00	per night	Fiscal Year 2003 Military Pay and Allowances, Military Per Diem Rates-West Virginia, 41 CFR 301, FTR Amendment 79-1998 Edition, Federal Travel Regulation, Final Rule
Meals		\$34.00	per person	

Density of Materials http://www.simetric.co.uk/si_materials.htm				
Garbage, household rubbish	481	kg/cu m	30.0275	lb per cu ft
gypsum, broken	1290-1600	kg/cu m	90.19	lb per cu ft
plaster	849	kg/cu m	53	lb per cu ft
		Average	57.74	lb per cu ft
			1.33	ton per cu yd

Crew (2-3 people), removal of plaster

Activity	Days
Cleaning household items, packing, moving	3
Removal plasterboard, ceiling	1
Cleaning attic	1
Replace plasterboard, repair and caulk	1
Taping	1
Texture	1
Paint	1
Thorough cleaning of the house	3
Remove/replace carpet	2
Move items back	1
Total days	15

Crew (2-3 people), no removal of plaster

Activity	Days
Cleaning household items, packing, moving	3
Cleaning attic	1
Repair plasterboard and caulk	1
Paint	1
Thorough cleaning of the house	2
Remove/replace carpet	2
Move items back	1
Total days	11

Unit Costs for Remediation

Factors to determine the number of crews (to complete the remediation action for 100 houses per month)

Crew	# people /crew	Total # of crews	Total # of people	Days at Work per house*
Attic (cleaning, sealing, removing insulation, carpets, ducts)	2	5	10	1
Cleaning (clean the house, vacuum)	2	10	20	2
Plaster/painter/finishings	1	5	5	1
Ducts installation	2	5	10	1
Carpet installation	2	5	10	0
Movers (clean, pack and move)	2	8	16	2
Disposal (hauling)	2	1	2	1
Totals		39	73	8

* some days of work are accounted in other crew-day

Needs per month			
Let's say # laborers	100		
At a 1:10 management ration, the management/supervision needed is	10		
Salary for supervision	\$28.70	per hour	
Coordinators, project managers, schedule planner	5		
Salary for management	\$57.40	per hour	
Vehicles for laborers	1 vehicle /crew		
Vehicles for management	1 vehicle /manag		
per diem management			
Hotel accomodations	\$67.00	per night	
Meals	\$34.00	per person	

Unit Costs for Remediation

Factors

- 1 The surface area for carpets was accounted as $\frac{2}{3}$ of the average square foot of the house. For commercial buildings, 15% of the surface area will be assumed to be covered by carpet
- 2 25% of the houses will have the plasterboard and/or hung ceiling removed and replaced
- 3 To calculate the square foot of the basement, a ratio of the residences that have basements and the total residences was calculated and multiplied by $\frac{1}{2}$ of the surface area of the house
- 4 The linear feet were assumed to be $\frac{1}{10}$ of the average square foot of the house
- 5

Waste generated	Furniture	10 cu yd
	Insulation	5 cu yd
	Plaster, carpet,	
	insulation	10 cu yd
- 6 Relocation for residences where the plasterboard needs to be removed is taken as 4 weeks. For residences where the plasterboard is not removed, the relocation is taken as 2 weeks. If only the carpet is being replaced, 4 days were assumed, and 2 days when the carpet was recommended to be cleaned.
- 7 For rentals, a month is 30 days. For labor, a month is 20 days
- 8 Downtime for trucks and equipment 20%
- 9 A ratio of 1:10 for management personnel to laborers was used
- 10 Supplies are estimated at 20% of field labor

Project Management

Cost for Project Management

Management	Cost	Unit	Total Cost/month	Reference
Superintendent, 10 total (1:10 ratio)	\$2,325.00	per week	\$93,000.00	pg 9, item 0260
Management, scheduler, project coordinators, project management, 5	\$2,037.00	per week	\$40,740.00	pg 9, item 00120, 0200
Per diem costs for management, 20 days per month				
Hotel accomodations	\$67.00	per night	\$6,700.00	Fiscal Year 2003 Military Pay and Allowances, Military Per Diem Rates- West Virginia, 41 CFR 301, FTR Amendment 79-1998 Edition, Federal Travel Regulation, Final Rule
Meals	\$34.00	per person	\$3,400.00	
Vehicles for laborers, 1 vehicle per crew, 40 total	\$62.99	per vehicle, per day	\$50,392.00	Enterprise.com
Vehicles for management, 1 vehicle per person, 5 total	\$17.97	per vehicle, per day	\$1,797.00	carrentals.com
Sub Total			\$196,029.00	

At 100 houses per month- cost per house: \$1,960.29

Education

Distribution of literature to educate residents in actions to reduce exposure

Distribution of Literature	Cost	Unit	Total Cost per house	Reference
paper and printing	\$1.58	per page	\$3.16	http://www.copy-corner.com/price.html
Folding (machine fold)	\$15.00	per thousand brochures	\$0.02	http://www.copy-corner.com/price.html
Mailing	\$0.39	per brochure	\$0.39	USPS, standard first-class rate (1 oz)
Time to locate pertinent information and write literature	\$75.00	per hour for environmental scientist (approx 40 hrs to complete task)	\$0.43	*assume \$75/hr bill rate for environmental scientist, 40hrs to complete task and approximately 7000 houses receiving literature
Subtotal			\$3.99	

Total Cost per house \$1,964.28

Remediation Costs - Zone 1 Residential

House Remediation Zone 1

Data

Average square feet of residences	1154	sq ft	
Total number of residences with basement	306		0.96
Total number of residences	318		
Waste generated			
Furniture	8	cu yd	
Insulation	4	cu yd	
Plaster and Insulation	8	cu yd	

Attic 1 (75% of residences)

Remove insulation via vacuum truck, clean attic with HEPA vacuum cleaner, seal/repair any cracks, install insulation

Attic	Cost	Unit	Total Cost	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	\$338.43	Environmental Rental Services and Vacuum Truck Rentals
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and removed insulation, 16 man hour	\$26.70	per hour	\$427.20	pg 602, crew A-2
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	\$1,050.28	pg 216, item 1100
Encapsulation with sealants, ceilings and walls, minimum	\$0.48	per sq. ft.	\$1,107.99	pg 404, item 0100
75% of Subtotal			\$2,201.06	

Attic 2 (25% of residences)

Remove insulation via vacuum truck, clean attic with HEPA vacuum cleaner, remove and replace plasterboard, seal/repair any cracks, install insulation

Attic	Cost	Unit	Total Cost	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	\$338.43	Environmental Rental Services and Vacuum Truck Rentals
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and removed insulation, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Removal of plaster on ceiling, on wood lath or hung ceiling	\$0.95	per sq. ft.	\$1,096.45	pg 286, item 1000
Drywall gypsum plasterboard, nailed or screwed to studs, 5/8" thick, on walls, standard, taped and finished	\$1.18	per sq. ft.	\$1,361.91	pg 293, item 2050
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	\$1,050.28	pg 216, item 1100
Paint ceiling (wallboard, smooth plaster, one coat, brush, roll or spray)	\$0.46	per sq. ft.	\$530.91	pg 317, item 1800
25% of the subtotal			\$1,204.00	

Remediation Costs - Zone 1 Residential

Carpet

Remove and replace carpet and pad

Carpet	Cost	Unit	Total Cost	Reference
Carpeting removal, bonded, including surface scraping	\$0.33	per sq. ft.	\$253.91	pg 286, item 0400
Pad for new carpet	\$0.91	per sq. ft.	\$702.75	pg 306, item 9200-9300 (average)
Carpet (commercial grade, nylon, level loop, 26 oz., light to medium traffic)	\$2.56	per sq. ft.	\$1,966.34	pg 306, item 0700
Subtotal			\$2,923.01	

Furniture

Remove and replace upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Furniture (upholstery-living area) removal, 4 man hours	\$26.70	per hour	\$106.80	pg 602, crew A-2
Furniture (upholstery-living area) replacement	\$2,283.00	living room set (sofa, love seat, table)	\$2,283.00	Living Room Sets with Tables, FurnitureOnTheWeb.com
Subtotal			\$2,389.80	

Basement

Clean basement (vacuum cleaner and wipe surfaces, and seal/repair cracks)

Basement	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 12 man hours	\$26.70	per hour	\$320.40	pg 602, crew A-2
Decontaminate and clean up irregular surfaces	\$1.28	per sq. ft.	\$711.22	pg 403, item 0200, 0250
Subtotal			\$1,042.45	

HVAC Ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$191.59	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, pressure to 12"	\$4.46	per lineal ft	\$514.75	pg 466, item 1920
Subtotal			\$706.34	

Remediation Costs - Zone 1 Residential

Furnace

Remove and replace filters

Furnace and Filter	Cost	Unit	Total Cost	Reference
Furnace filter replacement	\$9.00	ea.	\$9.00	Filtera.com
		Subtotal	\$9.00	

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners while the items are stored outside of the house, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$1,338.82	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental, 5 days	\$325.00	per month	\$54.17	pg 25, item 7655
Labor to vacuum and clean surfaces, 40 man hours	\$26.70	per hour	\$1,068.00	pg 602, crew A-2
Removal, clean and pack of belongings, 24 man hours	\$26.70	per hour	\$640.80	pg 602, crew A-2
Temporary Storage, 1 month	\$122.00	per month	\$122.00	Public Storage. http://www.publicstorage.com/estimate/ssEstimateResults.aspx
Caulk seams with latex, 200 linear feet	\$2.03	per linear ft.	\$406.00	pg 402, item 0800
Paint walls (oil base, primer or sealer coat, smooth finish, brushwork or roller), 4 rooms of 8' x 10'	\$0.37	per sq. ft.	\$118.40	pg 317, item 0200
		Subtotal	\$3,748.19	

Disposal of wastes generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 20 cu yd, 2 weeks	\$440.00	per week	\$880.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$608.09	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
		Subtotal	\$1,563.09	

Remediation Costs - Zone 1 Residential

Sampling

Confirmation sampling after 90 days of cleaning

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per house	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per house	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Relocation of residents

Relocation of residents (assume 2 people per house) in a hotel at the area while the house is cleaned, include per diem

Relocation (2 people)	Cost	Unit	Reference
Hotel accommodations, 4 weeks if plaster has to be removed, 2 weeks if plaster will not be removed	\$67.00	per night	\$1,206.00
Meals	\$34.00	per person	\$1,224.00
Subtotal			\$2,430.00

Total Cost \$18,747.65

Cost per
square
feet \$16.24

Remediation Costs - Zone 2 Residential

House Remediation Zone 2

Data

Average square feet of residences	1425	sq ft	
Total number of residences with basement	435		0.81
Total number of residences	539		
Waste generated			
Insulation	4	cu yd	
Plaster and Insulation	8	cu yd	

Attic 1 (75% of residences)

Remove insulation via vacuum truck, clean attic with HEPA vacuum cleaner, seal/repair any cracks, install insulation

Attic	Cost	Unit	Total Cost	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	\$338.43	Environmental Rental Services and Vacuum Truck Rentals
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and removed insulation, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	\$1,296.62	pg 216, item 1100
Encapsulation with sealants, ceilings and walls, minimum	\$0.48	per sq. ft.	\$1,367.86	pg 404, item 0100
Subtotal			\$2,580.71	

Attic 2 (25% of residences)

Remove insulation via vacuum truck, clean attic with HEPA vacuum cleaner, remove and replace plasterboard, seal/repair any cracks, install insulation

Attic	Cost	Unit	Total Cost	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	\$338.43	Environmental Rental Services and Vacuum Truck Rentals
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and removed insulation, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Removal of plaster on ceiling, on wood lath or hung ceiling	\$0.95	per sq. ft.	\$1,353.61	pg 286, item 1000
Drywall gypsum plasterboard, nailed or screwed to studs, 5/8" thick, on walls, standard, taped and finished	\$1.18	per sq. ft.	\$1,681.33	pg 293, item 2050
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	\$1,296.62	pg 216, item 1100
Paint ceiling (wallboard, smooth plaster, one coat, brush, roll or spray)	\$0.46	per sq. ft.	\$655.43	pg 317, item 1800
Subtotal			\$1,440.86	

Remediation Costs - Zone 2 Residential

Carpet

Remove and replace carpet and pad

Carpet	Cost	Unit	Total Cost	Reference
Carpeting removal, bonded, including surface scraping	\$0.33	per sq. ft.	\$313.47	pg 286, item 0400
Pad for new carpet	\$0.91	per sq. ft.	\$867.58	pg 306, item 9200-9300 (average)
Carpet (commercial grade, nylon, level loop, 26 oz., light to medium traffic)	\$2.56	per sq. ft.	\$2,427.53	pg 306, item 0700
Subtotal			\$3,608.57	

Furniture

Clean upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental, 1 day	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 8 man hours	\$26.70	per hour	\$213.60	pg 602, crew A-2
Subtotal			\$224.43	

Basement

Clean basement (vacuum cleaner and wipe surfaces, and seal/repair cracks)

Basement	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental, 1 day	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 8 man hours	\$26.70	per hour	\$213.60	pg 602, crew A-2
Decontaminate and clean up irregular surfaces	\$1.28	per sq. ft.	\$736.79	pg 403, item 0200, 0250
Subtotal			\$961.23	

HVAC Ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$236.53	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	\$635.48	pg 466, item 1920
Subtotal			\$872.01	

Furnace

Remove and replace filters

Furnace and Filter	Cost	Unit	Total Cost	Reference
Furnace filter replacement	\$9.00	ea.	\$9.00	Filtera.com
Subtotal			\$9.00	

Remediation Costs - Zone 2 Residential

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$1,652.83	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental, 3	\$325.00	per month	\$32.50	pg 25, item 7655
Labor to vacuum and clean, 24 man hours	\$26.70	per hour	\$640.80	pg 602, crew A-2
Removal and pack of belongings, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Temporary Storage, 2 weeks	\$122.00	per month	\$56.93	Public Storage, http://www.publicstorage.com/estimate/ssEstimateResults.aspx
Caulk seams with latex, 200 linear feet	\$2.03	per lineal ft	\$406.00	pg 402, item 0800
Paint walls (oil base, primer or sealer coat, smooth finish, brushwork or roller), 4 rooms of 8'x 10'	\$0.37	per sq. ft.	\$118.40	pg 317, item 0200
Subtotal			\$3,334.66	

Disposal of wastes generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 dump/week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$233.88	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$748.88	

Remediation Costs - Zone 2 Residential

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per house	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per house	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Relocation of residents

Relocation of residents (assume 2 people per house) in a hotel at the area while the house is cleaned, include per diem

Relocation (2 people)	Cost	Unit	Total Cost	Reference
Hotel accommodations, 2 weeks	\$67.00	per night	\$938.00	Fiscal Year 2003 Military Pay and Allowances, Military Per Diem Rates-West Virginia, 41 CFR 301, FTR Amendment 79-1998 Edition, Federal Travel Regulation, Final Rule
Meals	\$34.00	per person	\$952.00	
Subtotal			\$1,890.00	

Total Cost	\$16,201.06
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Cost per square feet	\$11.37
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Remediation Costs - Zone 3 Residential

House Remediation Zone 3

Data

Average square feet of residences	1316	sq ft	
Total number of residences with basement	1159		0.89
Total number of residences	1302		
Waste generated			
Insulation	4	cu yd	
Plaster and Insulation	8	cu yd	

Attic 1 (75% of residences)

Remove insulation via vacuum truck, clean attic with HEPA vacuum cleaner, seal/repair any cracks, install insulation

Attic	Cost	Unit	Total Cost	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	\$338.43	Environmental Rental Services and Vacuum Truck Rentals
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and removed insulation, 12 man hours	\$26.70	per hour	\$320.40	pg 602, crew A-2
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	\$1,197.55	pg 216, item 1100
Encapsulation with sealants, ceilings and walls, minimum	\$0.48	per sq. ft.	\$1,263.35	pg 404, item 0100
Subtotal			\$2,347.92	

Attic 2 (25% of residences)

Remove insulation via vacuum truck, clean attic with HEPA vacuum cleaner, remove and replace plasterboard, seal/repair any cracks, install insulation

Attic	Cost	Unit	Total Cost	Reference
Vacuum Truck, dry, rental	\$10,153.00	per month	\$338.43	Environmental Rental Services and Vacuum Truck Rentals
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and removed insulation, 12 man hours	\$26.70	per hour	\$320.40	pg 602, crew A-2
Removal of plaster on ceiling, on wood lath or hung ceiling	\$0.95	per sq. ft.	\$1,250.19	pg 286, item 1000
Drywall gypsum plasterboard, nailed or screwed to studs, 5/8" thick, on walls, standard, taped and finished	\$1.18	per sq. ft.	\$1,552.86	pg 293, item 2050
Blow-in insulation, ceiling, with open access, fiberglass, 8 1/2" thick, R19	\$0.91	per sq. ft.	\$1,197.55	pg 216, item 1100
Paint ceiling (wallboard, smooth plaster, one coat, brush, roll or spray)	\$0.46	per sq. ft.	\$605.35	pg 317, item 1800
Subtotal			\$1,318.91	

Remediation Costs - Zone 3 Residential

Carpet

Clean carpet

Carpet	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 8 man hours	\$26.70	per hour	\$213.60	pg 602, crew A-2
		Subtotal	\$224.43	

Furniture

Clean upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 8 man hours	\$26.70	per hour	\$213.60	pg 602, crew A-2
		Subtotal	\$224.43	

Basement

Clean basement (vacuum cleaner and wipe surfaces, and seal/repair cracks)

Basement	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 6 man hours	\$26.70	per hour	\$160.20	pg 602, crew A-2
Decontaminate and clean up irregular surfaces	\$1.28	per sq. ft.	\$750.05	pg 403, item 0200, 0250
		Subtotal	\$921.08	

HVAC ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$218.45	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	\$586.93	pg 466, item 1920
		Subtotal	\$805.38	

Furnace

Remove and replace filters

Furnace and Filter	Cost	Unit	Total Cost	Reference
Furnace filter replacement	\$9.00	ea.	\$9.00	Filtera.com
		Subtotal	\$9.00	

Remediation Costs - Zone 3 Residential

Cleaning

Thorough professional cleaning of exposed surfaces, windows, doors, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$1,526.54	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$21.67	pg 25, item 7655
Labor to vacuum and clean, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Removal and pack of belongings, 8 hours	\$26.70	per hour	\$213.60	pg 602, crew A-2
Temporary Storage, 1 weeks	\$122.00	per month	\$28.47	Public Storage, http://www.publicstorage.com/estimate/ssEstimateResults.aspx
Caulk seams with latex, 200 linear feet	\$2.03	per lineal ft	\$406.00	pg 402, item 0800
Paint walls (oil base, primer or sealer coat, smooth finish, brushwork or roller), 4 rooms of 8' x 10'	\$0.37	per sq. ft.	\$118.40	pg 317, item 0200
Subtotal			\$2,741.88	

Disposal of wastes generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 20 cu yd, 2 days	\$440.00	per week	\$125.71	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$233.88	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$434.59	

Remediation Costs - Zone 3 Residential

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn); 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per house	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per house	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Relocation of residents

Relocation of residents (assume 2 people per house) in a hotel at the area while the house is cleaned, include per diem

Relocation (2 people)	Cost	Unit	Total Cost	Reference
Hotel accommodations, 4 days	\$67.00	per night	\$268.00	Fiscal Year 2003 Military Pay and Allowances, Military Per Diem Rates-West Virginia, 41 CFR 301, FTR Amendment 79-1998 Edition, Federal Travel Regulation, Final Rule
Meals	\$34.00	per person	\$136.00	
Subtotal			\$404.00	

Total	\$9,962.33
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Cost per
square
feet \$7.57

Remedial Action Trailers Zone 1

Trailer Remediation Zone 1

Data

Average square feet of trailers 750 sq ft
Waste generated 5 cu yd

Carpet

Remove and replace carpet and pad

Carpet	Cost	Unit	Total Cost	Reference
Carpeting removal, bonded, including surface scraping	\$0.33	per sq. ft.	\$247.50	pg 286, item 0400
Pad for new carpet	\$0.91	per sq. ft.	\$685.00	pg 306, item 9200-9300 (average)
Carpet (commercial grade, nylon, level loop, 26 oz., light to medium traffic)	\$2.56	per sq. ft.	\$1,916.67	pg 306, item 0700
Subtotal			\$2,849.17	

Furniture

Remove and replace upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Furniture (upholstery-living area) removal, 4 man hours	\$26.70	per hour	\$106.80	pg 602, crew A-2
Furniture (upholstery-living area) replacement	\$2,283.00	living room set (sofa, love seat, table)	\$2,283.00	Living Room Sets with Tables, FurnitureOnTheWeb.com
Subtotal			\$2,389.80	

Thorough professional cleaning of surfaces, windows, doors, corners while the items are stored outside of the house, repair/seal cracks

Cleaning

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$870.00	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$32.50	pg 25, item 7655
Labor to vacuum and clean, 18 man hours	\$26.70	per hour	\$480.60	pg 602, crew A-2
Removal and pack of belongings, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Temporary Storage, 1 week	\$122.00	per month	\$28.47	Public Storage, http://www.publicstorage.com/estimate/ssEstimateResults.aspx
Caulk seams with latex, 100 linear feet	\$2.03	per lineal ft	\$203.00	pg 402, item 0800
Subtotal			\$2,041.77	

Remedial Action Trailers Zone 1

HVAC Ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$124.50	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	\$334.50	pg 466, item 1920
Subtotal			\$459.00	

Disposal of wastes generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$233.88	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$748.88	

Remedial Action Trailers Zone 1

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per house	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per house	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Relocation of residents

Relocation of residents (assume 2 people per house) in a hotel at the area while the house is cleaned, include per diem

Relocation (2 people)	Cost	Unit	Total Cost	Reference
Hotel accommodations, 4 days	\$67.00	per night	\$268.00	Fiscal Year 2003 Military Pay and Allowances, Military Per Diem Rates-West Virginia, 41 CFR 301, FTR Amendment 79-1998 Edition, Federal Travel Regulation, Final Rule
Meals	\$34.00	per person	\$272.00	
Subtotal			\$540.00	

Total Cost \$9,559.31

Cost per
square feet \$12.75

Remedial Action Trailers Zone 2

Trailer Remediation Zone 2

Data

Average square feet of trailers 750 sq ft
Waste generated 5 cu yd

Carpet Remove and replace carpet and pad

Carpet	Cost	Unit	Total Cost	Reference
Carpeting removal, bonded, including surface scraping	\$0.33	per sq. ft.	\$247.50	pg 286, item 0400
Pad for new carpet	\$0.91	per sq. ft.	\$685.00	pg 306, item 9200-9300 (average)
Carpet (commercial grade, nylon, level loop, 26 oz., light to medium traffic)	\$2.56	per sq. ft.	\$1,916.67	pg 306, item 0700
Subtotal			\$2,849.17	

Furniture Clean upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 8 man hours	\$26.75	per hour	\$214.00	pg 602, crew A-2
Subtotal			\$224.83	

HVAC ducts Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft.	\$124.50	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft.	\$334.50	pg 466, item 1920
Subtotal			\$459.00	

Remedial Action Trailers Zone 2

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners while the items are stored outside of the house, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$870.00	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$130.00	pg 25, item 7655
Labor to vacuum and clean, 12 man hours	\$26.75	per hour	\$321.00	pg 602, crew A-2
Removal and pack of belongings, 12 man hours	\$26.75	per hour	\$321.00	pg 602, crew A-2
Temporary Storage, 1 week	\$122.00	per month	\$28.47	Public Storage, http://www.publicstorage.com/estimate/ssEstimateResults.aspx ,
Caulk seams with latex, 100 linear feet	\$2.03	per lineal ft	\$203.00	pg 402, item 0800
Subtotal			\$1,873.47	

Disposal of wastes generated Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$233.88	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$748.88	

Remedial Action Trailers Zone 2

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per house	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per house	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Relocation of residents

Relocation of residents (assume 2 people per house) in a hotel at the area while the house is cleaned, include per diem

Relocation (2 people)	Cost	Unit	Reference
Hotel accommodations, 4 days	\$67.00	per night	\$268.00
Meals	\$34.00	per person	\$272.00
Subtotal			\$540.00

Total Cost \$7,226.05

Cost per
square
feet \$9.63

Remedial Action Trailers Zone 3

Trailer Remediation Zone 3

Data

Average square feet of

trailers

750 sq ft

Waste generated

2.5 cu yd

Carpet

Clean carpet

Carpet	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 4 man hours	\$26.70	per hour	\$106.80	pg 602, crew A-2
Subtotal			\$117.63	

Furniture

Clean upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 8 man hours	\$26.70	per hour	\$213.60	pg 602, crew A-2
Subtotal			\$224.43	

HVAC ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$124.50	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	\$334.50	pg 466, item 1920
Subtotal			\$459.00	

Remedial Action Trailers Zone 3

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners while the items are stored outside of the house, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$870.00	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$130.00	pg 25, item 7655
Labor to vacuum and clean, 12 man hours	\$26.70	per hour	\$320.40	pg 602, crew A-2
Removal and pack of belongings, 6 man hours	\$26.70	per hour	\$160.20	pg 602, crew A-2
Temporary Storage, 1 week	\$122.00	per month	\$28.47	Public Storage, http://www.publicstorage.com/estimate/ssEstimateResults.aspx
Caulk seams with latex, 100 linear feet	\$2.03	per linear ft	\$203.00	pg 402, item 0800
Subtotal			\$1,712.07	

Disposal of wastes generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$116.94	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$631.94	

Remedial Action Trailers Zone 3

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per house	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per house	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Relocation of residents

Relocation of residents (assume 2 people per house) in a hotel at the area while the house is cleaned, include per diem

Relocation (2 people)	Cost	Unit	Reference
Hotel accommodations, 2 nights	\$67.00	per night	Fiscal Year 2003 Military Pay and Allowances, Military Per
Meals	\$34.00	per person	Diem Rates-West Virginia, 41
Subtotal			\$270.00

Total Cost \$3,945.77

Cost per
square feet \$5.26

Remedial Action Commercial Building Zone 1

Commercial Building Remediation Zone 1

Data

Average square feet of
commercial buildings

1232 sq ft

Waste generated

3 cu yd

Carpet

Remove and replace carpet and pad

Carpet	Cost	Unit	Total Cost	Reference
Carpeting removal, bonded, including surface scraping	\$0.33	per sq. ft.	\$60.98	pg 286, item 0400
Pad for new carpet	\$0.91	per sq. ft.	\$168.78	pg 306, item 9200-9300 (average)
Carpet (commercial grade, nylon, level loop, 26 oz., light to medium traffic)	\$2.56	per sq. ft.	\$472.27	pg 306, item 0700
Subtotal			\$702.03	

Furniture

Remove and replace upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Furniture (upholstery) removal, 4 man hours	\$26.70	per hour	\$106.80	pg 602, crew A-2
Furniture (upholstery-living area) replacement	\$301.00	3 office chairs	\$903.00	3 office chairs, FurnitureOnTheWeb.com
Subtotal			\$1,009.80	

HVAC ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$204.51	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	\$549.47	pg 466, item 1920
Subtotal			\$753.98	

Remedial Action Commercial Building Zone 1

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$1,429.12	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental, 2 days	\$325.00	per month	\$21.67	pg 25, item 7655
Labor to vacuum and clean, 24 man hours	\$26.70	per hour	\$640.80	pg 602, crew A-2
Caulk seams with latex, 100 linear feet	\$2.03	per lineal ft	\$203.00	pg 402, item 0800
		Subtotal	\$2,294.59	

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per building	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per building	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
		Subtotal	\$530.70	

Remedial Action Commercial Building Zone 1

Disposal of wastes generated Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$140.33	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$655.33	

Total Cost \$5,946.43

Cost per
square feet \$4.83

Remedial Action Commercial Building Zone 2

Commercial Building Remediation Zone 2

Data

Average square feet of
commercial buildings

1015 sq ft

Waste generated

1 cu yd

Carpet

Clean carpet

Carpet	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 4 man hours	\$26.70	per hour	\$106.80	pg 602, crew A-2
Subtotal			\$117.63	

Furniture

Clean upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum and clean, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Subtotal			\$438.03	

HVAC ducts

Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$168.49	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, presure to 12"	\$4.46	per lineal ft	\$452.69	pg 466, item 1920
Subtotal			\$621.18	

Remedial Action Commercial Building Zone 2

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners while the items are stored outside of the house, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$1,177.40	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental, 2 days	\$325.00	per month	\$21.67	pg 25, item 7655
Labor to vacuum and clean, 16 man hours	\$26.70	per hour	\$427.20	pg 602, crew A-2
Caulk seams with latex, 100 linear feet	\$2.03	per lineal ft	\$203.00	pg 402, item 0800
Subtotal			\$1,829.27	

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per building	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per building	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Remedial Action Commercial Building Zone 2

Disposal of wastes
generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$46.78	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$561.78	

Total Cost \$4,098.59

Cost per
square feet \$4.04

Remedial Action Commercial Building Zone 3

Commercial Building Remediation Zone 3

Data

Average square feet of
commercial buildings 1613 sq ft
Waste generated 1 cu yd

Carpet Clean carpet

Carpet	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$10.83	pg 25, item 7655
Labor to vacuum, 4 man hours	\$26.75	per hour	\$107.00	pg 602, crew A-2
Subtotal			\$117.83	

Furniture Clean upholstery furniture

Furniture	Cost	Unit	Total Cost	Reference
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$21.67	pg 25, item 7655
Labor to vacuum and clean, 16 man hours	\$26.75	per hour	\$428.00	pg 602, crew A-2
Subtotal			\$449.67	

HVAC ducts Remove and replace ducts

HVAC Ducts	Cost	Unit	Total Cost	Reference
Remove ductwork, 4" high, 8" wide	\$1.66	per lineal ft	\$267.76	pg 426, item 1000
Ductwork, flexible, insulated, 5" diameter, coated fiberglass fabric on corr. resist. metal helix, pressure to 12"	\$4.46	per lineal ft	\$719.40	pg 466, item 1920
Subtotal			\$987.16	

Remedial Action Commercial Building Zone 3

Cleaning

Thorough professional cleaning of surfaces, windows, doors, corners while the items are stored outside of the house, repair/seal cracks

Thorough Professional Cleaning	Cost	Unit	Total Cost	Reference
Decontaminate and clean up surfaces	\$1.16	per sq. ft.	\$1,871.08	pg 403, item 0200, 0250
Vacuum cleaner, HEPA, 55 gal., s.s., wet/dry, rental	\$325.00	per month	\$21.67	pg 25, item 7655
Labor to vacuum and clean, 16 man hours	\$26.75	per hour	\$428.00	pg 602, crew A-2
Caulk seams with latex, 100 linear feet	\$2.03	per lineal ft	\$203.00	pg 402, item 0800
Subtotal			\$2,523.75	

Sampling

Sampling to confirm the performance of the cleaning, removal and replacement of items

Sampling	Cost	Unit	Total Cost	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$360.00	Laboratory
Labor costs on sampling, crew of 3, 1 hour	\$50.00	per hour	\$150.00	Environmental Services Personnel
Air sampler, 1 hour	\$95.00	per week	\$9.50	Ajax Environmental & Safety Supplies
Dry Calibrator, 1 hour	\$45.00	per week	\$4.50	Ajax Environmental & Safety Supplies
Sampling materials-ghost wipes, 6 wipes per building	\$50.00	per box (200)	\$1.50	Ajax Environmental & Safety Supplies
Sampling materials-preloaded cassette, 4 cassettes per building	\$65.00	per box (50)	\$5.20	Ajax Environmental & Safety Supplies
Subtotal			\$530.70	

Remedial Action Commercial Building Zone 3

Disposal of wastes
generated

Disposed of all the items removed, dust cleaned

Disposal of wastes generated	Cost	Unit	Total Cost	Reference
Rubbish handling, dumpster, weekly rental, 1 week, 20 cu yd	\$440.00	per week	\$440.00	pg 39, item 0725
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$46.78	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$75.00	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
Subtotal			\$561.78	

Total Cost \$5,170.88

Cost per
square
feet \$3.21

Soil Remediation Zone 1A

Soil Remediation Zone 1A

Data

Average square feet of residential house lots 9120 sq ft
 Total number of residences 182
 Waste generated
 Soil 168.89 cu yd

Excavation, Transport, and Disposal of wastes generated

Disposal of wastes generated	Cost	Unit	Cost/cu ft	Cost/ prop	Reference
Excavation and loading	\$23.60	per bank cu yd	\$0.87	\$3,985.78	page 49, item 6030, pg 46, item 0010
Dump charges, rubbish only, tipping fees only	\$35.17	ton	\$1.76	\$8,018.76	Interdisciplinary Modules to Teach Waste or Residue Management in the Food Chain, Costs of Disposal of Wastes and Residues
Transportation, 50 miles	\$1.50	per mile	\$0.11	\$506.67	City of Jeannette, Suggestions for the Recycling Program and Analysis of the Recycling Center, A Cost Comparison of Alternatives for Providing the Proposed Martinsburg Yard Waste Compost Facility with Equipment
		Subtotal		\$12,511.20	

Backfill of dirt in the yards

Backfilling of Yards	Cost	Unit	Cost/cu ft	Cost/ prop	Reference
Hauling, no loading included, 12 cy dump truck, 20 mile round trip, 0.4 load/hr	\$22.00	per loose cubic yard	\$0.81	\$3,715.56	Page 50, item 0560
Backfill, general, by hand, no compaction, light soil	\$23.50	per loose cubic yard	\$0.87	\$3,968.89	Page 45, item 0015
Finish grading area, hand grading	\$1.52	per sq yd	\$0.34	\$1,540.27	Page 45, item 1150
Soil	\$0.86	per cu ft	\$0.86	\$3,921.60	Contractors

Soil Remediation Zone 1A

Subtotal	\$13,146.31
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Labor

Labor	Cost	Unit	Cost/cu ft	Cost/ prop	Reference
Excavation and Replacement - five days, crew of 3 plus one driver	\$26.70	man hour	\$0.94	\$4,272.00	pg 602, crew A-2
Revegetation/Landscaping - 1 day, crew of 3	\$26.70	man hour	\$0.14	\$640.80	pg 602, crew A-2
Subtotal				\$4,912.80	

Sampling Confirmation sampling after 90 days of removal and replacement

Sampling	Cost	Unit	Cost/ prop	Reference
Analysis for 6010 or 6020 for metals (As, Cd, Pb and Zn), 4 samples	\$90.00	per sample	\$0.08	Laboratory
Labor costs on sampling, crew of 2, 1 hour	\$50.00	per hour	\$0.02	Environmental Services Personnel
Sampling materials-soil jars, 4 per house	\$120.00	per case (48)	\$0.00	Ajax Environmental & Safety Supplies
Sampling materials-decon supplies	\$20.00	per site	\$0.00	Ajax Environmental & Safety Supplies
Subtotal				\$490.00

Soil Remediation - Excavation up to a depth of 6 inches, with a tractor, loader (rented), rental of truck, density of soil taken as 1.5 g/cm³

Assume: five days of work per property, dumpsite located at 25 miles

Total Cost per Property	\$31,060.32
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Total Remediation Costs \$5,652,977.43

Class Area Remediation

Total Labor Summary

Labor Requirements	Units	Rate	Subtotal	Task Cost
Residential Remediation				\$ 4,974,669.60
Zone 1	318	\$ 3,140.40	\$ 998,647.20	
Zone 2	539	\$ 2,499.60	\$ 1,347,284.40	
Zone 3	1302	\$ 2,019.00	\$ 2,628,738.00	
Trailer Remediation				\$ 460,391.40
Zone 1	79	\$ 1,164.60	\$ 92,003.40	
Zone 2	162	\$ 1,006.00	\$ 162,972.00	
Zone 3	216	\$ 951.00	\$ 205,416.00	
Commercial Building Remediation				\$ 225,707.40
Zone 1	11	\$ 897.60	\$ 9,873.60	
Zone 2	49	\$ 1,111.20	\$ 54,448.80	
Zone 3	145	\$ 1,113.00	\$ 161,385.00	
Soil Remediation				\$ 894,129.60
Zone 1A	182	\$ 4,912.80	\$ 894,129.60	
Subtotal Labor				\$ 6,554,898.00
On-site Project Mgmt.	2821	\$ 1,960.29		\$ 5,529,978.09
Total On-Site Labor				\$ 12,084,876.09

Summary of Remedial Costs

Cost Summary

	Zone 1	Zone 2	Zone 3
Houses			
Total number of houses	318	539	1302
Average square feet per total houses	1154	1425	1316
Average Cost per square feet	\$16.24	\$11.37	\$7.57
<i>All houses in the Zone</i>	<i>\$5,961,753</i>	<i>\$8,732,369</i>	<i>\$12,970,954</i>
Trailers/Mobile Homes			
Total number of Trailers	79	162	216
Average square feet per total trailers	750	750	750
Average Cost per square feet	\$12.75	\$9.63	\$5.26
<i>All trailers in the Zone</i>	<i>\$755,186</i>	<i>\$1,170,620</i>	<i>\$852,287</i>
Commercial Buildings			
Total number of Commercial buildings	11	49	145
Average square feet per total commercial buildings	1232	1015	1613
Average Cost per square feet	\$4.83	\$4.04	\$3.21
<i>All commercial buildings in the Zone</i>	<i>\$65,411</i>	<i>\$200,831</i>	<i>\$749,777</i>

Remediation Procedures by Zone

Remedial Action per Zone at Houses

Action	Zone 1	Zone 2	Zone 3
Remove, dispose and replace all upholstered furniture	√		
Clean all household items, packed and moved out to temporary storage	√	√	√
Remove and replace all insulation from the attic	√	√	√
Remove and replace all plaster from the attic in 25% of the houses located at the zone	√	√	√
Remove and replace HVAC ducts	√	√	√
Clean attic with HEPA vacuum cleaner, apply sealer, repair cracks	√	√	√
Thoroughly vacuum and clean the house, repair any cracks, repaint areas repaired	√	√	√
Remove and replace carpet	√	√	
Clean carpet with vacuum cleaner			√
Clean furniture with vacuum cleaner		√	√
Thoroughly vacuum and clean basement, repair any cracks	√	√	√
Remove and replace furnace filters	√	√	√
Disposed of wastes generated	√	√	√
Confirmation sampling after 90 days of remedial actions	√	√	√

Remediation Procedures by Zone

Remedial Action per Zone at Trailers

Action	Zone 1	Zone 2	Zone 3
Remove, disposed and replace all upholstered furniture	√		
Clean all household items, packed and moved out to temporary storage	√	√	√
Remove and replace HVAC ducts	√	√	√
Thoroughly vacuum and clean the mobile home, repair any cracks, repaint areas repaired	√	√	√
Remove and replace carpet	√	√	
Clean carpet with vacuum cleaner			√
Clean furniture with vacuum cleaner		√	√
Thoroughly vacuum and clean basement, repair any cracks	√	√	√
Remove and replace furnace filters	√	√	√
Disposed of wastes generated	√	√	√
Confirmation sampling after 90 days of remedial actions	√	√	√

Remediation Procedures by Zone

Remedial Action per Zone at Commercial Buildings

Action	Zone 1	Zone 2	Zone 3
Remove, disposed and replace all upholstered office chairs	√		
Remove and replace HVAC ducts	√	√	√
Thoroughly vacuum and clean the building, repair any cracks, repaint areas repaired	√	√	√
Remove and replace carpet	√		
Clean carpet with vacuum cleaner		√	√
Clean furniture with vacuum cleaner		√	√
Disposed of wastes generated	√	√	√
Confirmation sampling after 90 days of remedial actions	√	√	√

Class Area Remediation

Total Cost Summary

Category	Units	Rate	Subtotal	Task Cost
Residential Remediation				\$ 27,665,075.71
Zone 1	318	\$ 18,747.65	\$ 5,961,752.51	
Zone 2	539	\$ 16,201.06	\$ 8,732,368.95	
Zone 3	1302	\$ 9,962.33	\$ 12,970,954.25	
Trailer Remediation				\$ 2,778,092.53
Zone 1	79	\$ 9,559.31	\$ 755,185.79	
Zone 2	162	\$ 7,226.05	\$ 1,170,619.64	
Zone 3	216	\$ 3,945.77	\$ 852,287.09	
Commercial Building Remediation				\$ 1,016,019.07
Zone 1	11	\$ 5,946.43	\$ 65,410.77	
Zone 2	49	\$ 4,098.59	\$ 200,830.88	
Zone 3	145	\$ 5,170.88	\$ 749,777.42	
Soil Remediation				\$ 5,652,977.43
Zone 1A	182	\$ 31,060.32	\$ 5,652,977.43	
On-site Project Management	2821	\$ 1,960.29	\$ 5,529,978.09	\$ 5,529,978.09
Maintenance		5%		\$ 1,855,608.24
SubTotal Remediation				\$ 44,497,751.07
Corporate Management				\$ 5,394,752.62
Site Manager/Asst. Manager	2	\$ 250,000.00	\$ 500,000.00	
Project Management/Scheduling		2%	\$ 889,955.02	
Public Relations		2%	\$ 889,955.02	
Documentation/Quality Control		5%	\$ 2,224,887.55	
Accounting		1%	\$ 444,977.51	
CIS/Data Management		1%	\$ 444,977.51	
Start-Up/Overhead				\$ 2,543,420.14
Procurement		2%	\$ 889,955.02	
Insurance		1%	\$ 444,977.51	
Vacation/Holiday		10%	\$ 1,208,487.61	
SubTotal Management/Overhead				\$ 7,938,172.76
Contingency		10%		\$ 5,243,592.38
Profit		10%		\$ 5,243,592.38
Total Project Costs				\$ 62,923,108.59
Total Cost per Property				\$ 22,305.25

**APPENDIX A TO RFP:
MANDATORY TERMS**

APPENDIX A
ACCEPTANCE OF MANDATORY RFP REQUIREMENTS

FOR REQUEST FOR PROPOSAL (RFP)
FOR REMEDIATION OF SOIL and HOUSES* IN THE CLASS AREA
IN THE PERRINE DUPONT SETTLEMENT

The following are the mandatory RFP requirements that shall be met by the successful Bidder(s):

General

1. Bidder agrees that the response to the RFP and any subsequent documentation (best and final offer, and interview responses) shall be considered part of the final agreement and contract.

Account Management

2. Bidder will provide a representative to attend meetings as necessary in Spelter, West Virginia.
3. Bidder will maintain a database regarding the remediation of each and every soil parcel remediated by Bidder in Zone 1A, and of each every house* remediated by Bidder in Zone 1A, 1B, 2, and 3.
4. Bidder will assign a main contact person to interface with the Claims Administrator throughout the project and as long as the Bidder's contract is in effect. This person will be charged with providing requested information and documentation within twenty-four (24) hours following notice from the Claims Administrator.

Data, Systems, and Reporting

5. Bidder will accept electronic data transfer and administer information regarding remediation of claimant soil or houses in a confidential manner.
6. Bidder will provide periodic data updates to the Claims Administrator in electronic format.

Audit Rights

7. Bidder agrees to provide unrestricted audit rights to the Claims Administrator in relation to the cleaning of soil in Zone 1A, and the houses* in Zones 1A, 1B, 2, and 3.

*As defined in the June 27, 2011 Property Remediation Order in Exhibit A, which may include some commercial structures that are fit for human occupancy and regularly occupied by people. The Settlement will make all determinations as to which structures will be remediated.

Financial Proposal

8. Bidder guarantees the financial elements of its proposal throughout the term of the contract.

Consent to Jurisdiction and Waiver of Objections

9. Bidder, by its execution of the Agreement, submits to the jurisdiction of the Circuit Court of Harrison County, West Virginia in Perrine, et al., v. E. I. DuPont De Nemours and Company, et al., Case No. 04-C-296-2, (the "DuPont Case") for all purposes related to or arising out of Bidder's proposal to provide, or, if Bidder is selected as a provider, Bidder's provision of soil heavy metals clean-up services in Zone 1A, and house* heavy metals remediation and testing in Zones 1A, 1B, 2, and 3. In addition, Bidder hereby waives any and all objections it might otherwise assert to the aforesaid jurisdiction, venue, or authority of the Court in the DuPont Case to hear and determine any and all disputes that might arise out of or be related to the services described herein, reserving its rights to be heard in connection therewith and to appeal, it may be advised, from any adverse determination of the Court in the DuPont Case.

Confidentiality Agreement

10. Bidder understands that the Court in the DuPont Case has ordered that the data resulting from any clean-up of soil in Zone 1A, and of houses* in Zone 1A, 1B, 2, and 3 be maintained in a confidential manner, and state that Bidder will not reveal this information to anyone outside of authorized personnel in the Bidder company unless Bidder has express permission to do so from the Honorable Thomas A. Bedell or the Claims Administrator. Bidder further understands that if Bidder violates this pledge of confidentiality, Bidder is subject to being brought before the Honorable Thomas A. Bedell for investigation and possible sanctions for this breach.

Company Name:

By: _____
Sign Name

Date

Print Name of Signing Person

Title With the Company

By signing the above, I, _____ hereby represent that I have the authority and power to bind _____ (company name), and that I will comply with all of the terms as set forth hereinabove.

(Legal Signature)

**APPENDIX B TO RFP:
ROUTE CLEARANCE TESTING
PROTOCOLS**

APPENDIX B

Post Interior Remediation Verification (PRV) Sampling - Sampling and Testing Methods - Dust Wipe Sampling and Testing (Dust Metal Loading)

A minimum of 48 hours after completion of interior metal dust cleanup activities, confirmatory sampling shall be performed to document post-cleanup conditions and demonstrate attainment with remedial action objectives. In general, the PRV Sampling shall follow the methods and procedures for the initial investigative sampling as follows:

Dust Wipes

Dust wipe samples will be taken from residences that have undergone interior cleaning utilizing GhostWipes™ to maintain consistency with sampling media utilized during previous investigation phases. These samples will be analyzed for arsenic, cadmium, lead, and zinc loading levels. Loading levels give the weight of a metal per unit area (e.g., micrograms per square foot). Samples will be collected according to procedures in the EPA *Residential Sampling for Lead: Protocols for Dust and Soil Sampling – Final Report* and analyzed per EPA method 6020.

Carpet Dust Vacuum Samples

Dust vacuum samples will be taken from cleaned residences utilizing Zefon 25mm Carpet/Dust Sampling Cassettes Preloaded with 0.45µm MCE Filters to maintain consistence with sampling media utilized during previous investigation phases. In general, two dust samples will be taken from a carpeted floor surface in a high traffic areas. These samples will be analyzed for arsenic, cadmium, lead, and zinc concentration (milligrams metal per gram of dust) and loading levels (milligrams of metal per area sampled). Samples will be collected according to procedures in EPA Standard Operating Procedure (SOP) 4231.11A (modified to incorporate the use of a HEPA vacuum) and analyzed per EPA method 6020.

Sampling and Testing Methods - Dust Wipe and Vacuum Sampling and Testing (Dust Metal Loading)

Metal concentrations measured by wipe samples depend on two factors:

- the amount of collectable dust on a surface, and
- the concentration of metal in that dust.

The wipe method is a recommended method for collecting dust samples on hard, smooth interior surfaces such as window sills and floors. Wipe methods are not recommended for highly textured surfaces such as brickwork and rough concrete or porous materials such as carpet or fabric.

Within each residence the following settled surface dust samples shall be collected to the extent feasible given the particular circumstances of each structure:

1. Two (2) samples from the attic space;
2. Two (2) samples from the floor in the highest traffic areas in the house; and
3. Two (2) samples from accumulated dust-laden surfaces or objects in the general living area of the house.

The settled surface dust samples shall be collected from porous surfaces using the vacuum dust collection procedures. Porous surfaces can include carpet, fabric, rough or unpainted lumber, insulation, etc. Hard, non-porous surfaces can be sampled using the wipe sampling protocol. Painted surfaces that contain suspect lead-based paint should be avoided. The sampling should be biased, to the extent possible, to find contamination from areas recommended in the procedures such as fan blades, door frames, and furnace vents.

The high traffic areas of a residence should be sampled closet to the main point of entry into the structure and at the top of a stair landing. If the house is a single story structure the main point of entry and second high use area shall be selected, such as the kitchen, mud room, or shoe closet.

The dust-laden surface sampling should be conducted on a surface or article that does not generally get moved within the residence (i.e., is stationary) and is not suspected to be painted with lead-based paint. Ideally the dust-laden sampling will be conducted on surfaces or objects that provide a historical dust loading that has not been recently disturbed or cleaned.

How to Collect Dust Samples: The recommended methods are described in Chapter C of the EPA report *Residential Sampling for Lead: Protocols for Dust and Soil Sampling*, EPA 747-R-95-001 (March 1995); ASTM D6966-08 "Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Determination of Metals"; ASTM D7144 - 05a (2011) "Standard Practice for Collection of Surface Dust by Micro-vacuum Sampling for Subsequent Metals Determination".

In addition, ASTM Methods E1792-03(2011) "Standard Specification for Wipe Sampling Materials for Lead in Surface Dust" and E1728-10 "Standard Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Lead Determination" should be utilized for lead sampling specifically.

In general, the wipe or vacuum sampling procedures utilize a known sample grid size to provide uniform reporting criteria (usually in micrograms per square foot) for comparison to regulatory limits and the USEPA NHEXAS survey.

Lab Tests of Dust Samples: Analyze dust samples using a West Virginia Department of Environmental Protection (WVDEP) approved laboratory recognized by EPA pursuant to Section 405(b) of the Toxic Substances Control Act (TSCA) as being capable of performing analyses for metal contaminants in dust samples. All samples shall be analyzed by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS) by EPA Methods 200.8 & 6020.

APPENDIX C:
ADDITIONAL REQUIRED
TERMS AND CONDITIONS

- 1) A Settlement representative may accompany clean-up personnel on any or all of the remediation trips made to the remediation site. The Settlement will provide the successful bidder(s) with periodic Ripe to Clean Reports, listing the address of the site to be remediated and indicating if there is to be soil (Zone 1A only) or house* remediation (all Zones) and the Zone of the location, its GPS coordinates, the name and phone number(s) of the property clean-up contact person, a statement of whether the soil and house* is to be cleaned or just the house*, and the name and phone number of the Settlement contact person, if any, who will meet testing personnel at the clean-up site.
- 2) All clean-up personnel must conduct themselves in a polite professional manner, regardless of the attitude, demeanor, or actions of the homeowner.
- 3) Periodic safety/communication meetings shall be held by clean-up field employees. OSHA safety topics, specific client/job topics, employee concerns, and learned skills should be shared in this briefing meeting. Documentation of what was discussed and a signed roll sheet shall be submitted to the Settlement Office by the next working day. The Settlement Office shall have adequate notice to attend these meetings and have the opportunity to comment on the progress, quality, concerns and successes that have been experienced.
- 4) If conflicts or concerns are brought to light, the clean-up personnel shall be non-confrontational, polite, brief, and if necessary, leave the premises if the situation dictates. Every conflict shall be immediately reported to the Settlement/Resolution office.
- 5) We want the landowner or his or her representative to have the opportunity to be present during the clean-up unless they decline, or there are health or safety reasons why they should not be present. The Contractor may reasonably require the landowner to maintain a safe distance from the clean-up.
- 6) Every field employee must "Be nice", state their intentions when requested by the claimant, and, explain their actions and expectations, clearly and briefly if requested. We should always let the homeowner know what to expect next, and thank them for allowing the intrusion.
- 7) At no time are we asking the core of clean-up personnel to have or express an opinion on any issue of the Class Action Settlement. In fact, we recommend that they keep their personal opinions private. In the event that one of the clean-up personnel makes a promise, they are bound by their word, and they may be required to keep it possibly at their own expense.
- 8) Any damages caused by the clean-up company must be quickly and completely repaired, replaced, or settled by the clean-up company. The successful bidder will be fully bonded. Please provide proof.
- 9) The Settlement Office will not accept inappropriate or illegal behavior from the clean-up company or its personnel.
- 10) Items to be submitted to the Settlement Office by the clean-up company on an ongoing basis:
 - (a) Current personnel list with supervision noted and contact phone numbers.
 - (b) Safety meeting documentation as provided above.
 - (c) For each property as it is cleaned:
 - 1) Two photographs of the cleaned property from the road.
 - 2) Name and mailing address and phone number of homeowner.
 - 3) Post-clean-up comments.
 - 4) Clean-up results including identifying areas of concern.

*As defined in the June 27, 2011 Property Remediation Order in Exhibit A, which may include some commercial structures that are fit for human occupancy and regularly occupied by people. The Settlement will make all determinations as to which structures will be remediated.

**APPENDIX D TO RFP:
FEBRUARY 3, 2012, 1:00 P.M. EST
ORIENTATION CALL DAIL-IN
INSTRUCTIONS**

Kip Harbison

From: Melissa Cooper
Sent: Wednesday, January 18, 2012 10:45 AM
To: Kip Harbison
Subject: AT&T TeleConference Reservation Confirmation - HOST Copy (690252085)



TeleConference
Services

TeleConference Folder Id: 690252085

CHANGED

AUDIO DIAL IN Reservation Confirmation

Information is subject to change. If so, you will be notified by a TeleConference Associate.
Cancel reservations at least 30 minutes before start time to avoid No Show fees.

Please review this information and contact TeleConference Services at (800)526-2655 if
there are any changes.

ACCESS INFORMATION

Audio Conference

USA Toll-Free: (877)322-9654
HOST CODE: 264104 PARTICIPANT CODE: 475073

CONFERENCE INFORMATION

Start Date and Time	End Date and Time	Duration
Feb 03 2012 01:00 PM EST, Fri	Feb 03 2012 03:00 PM EST, Fri	2 hr 00 mins

Identification

Conference
Name:
Conference Id: MEG6679

Ports

Total
Ports: 40

Features Selected

- ☒ Automatic Port Expansion ☒ Host Dial Out
☒ Operator Dial Out

HOST and ARRANGER INFORMATION

Conference Host: ED GENTLE

Phone Number: (205)716-3000 Ext: 120

Conference Arranger: MELISSA COOPER

Phone Number: (205)716-3000 Ext: 129

SPECIAL NOTES

- * Should you need assistance during your conference, please press # then 0 for a list of menu options including Specialist assistance.
- * **Special Tip:** Always remember to set a date for a follow-up conference while

all participants are on the call.

- * If your individual TeleConference account is not used within a six month period, deactivation will occur.
- * If you have any questions regarding this service or your account, please call (800)526-2655 and a Specialist will assist you.
- * For your protection, do not publish your conference Access Information (e.g., Dial In Number, Access Codes.).

Thank you for choosing AT&T TeleConference Services!

Wed Jan 18 2012 10:37:35

**ATTACHMENT B
TO JANUARY 18, 2012
CLAIMS ADMINISTRATOR REPORT-
PROPERTY CLEAN-UP RFP BIDDER LIST**

Perrine v. DuPont Settlement Clean-Up Potential Bidder List 1-18-12

Company Name	Contact Name	Email Address	Phone Number	Street Address 1	City	State	Zip
Alert Environmental	Tim Callison		(304) 622-4340	PO Box 960	Bridgeport	WV	26330
AMEC			(724) 940-4200				
Apex Environmental	Eric Rager	erager@apexcos.com	(304) 417-0200				
Bear Contracting LLC	Chad Hammond	chammond@bear-contracting.com	(304) 842-3002	PO Box 1196 (112 State St)	Bridgeport	WV	26330
Burnham Industrial Contractors, Inc.			(412) 366-6622	3229 Babcock Blvd	Pittsburgh	PA	15237
C. J. Hughes Construction Co. Inc.			(304) 522-3868	P. O. Box 7305	Huntington	WV	25776
Canfield Development			(412) 885-7428	2536 Library Road	Pittsburgh	PA	15234
CODE Environmental Services, Inc	Martin Brubaker	meh@codeenvironmental.com	(732)969-2700	400 Middlesex Avenue	Carteret	NJ	07008
Core Environmental	Tom Rebar	trebar@core-env.com	(304) 292-2673	4 Brookstone Plaza	Morgantown	WV	26508
Crest Environmental Services Corp.			(610) 685-7711	1801 N. 10th Street	Reading	PA	19064
CTL Engineering			(304) 292-1135	733 Fairmont Road	Morgantown	WV	26505
ENTACT, LLC	Tina Raap	traap@entact.com	(630) 413-9456	1010 Executive Court, Suite 280	Westmont	IL	60559
Envirocon	Michael Fisher		(724) 325-1629	318 Rainbow Drive	Aliquippa	PA	15001
Environmental Specialty Services, Inc							
Exposure Assessment, Inc.	Jon Anderson	jaanderson@yahoo.com	(304) 844-0996	14630 East Eleven Mile Road	Warren	MI	
			(412) 771-0900	1915 Constitution Drive	Fairmont	WV	26554
GVH Environmental, Inc			x.31	River Avenue	McKees Rocks	PA	15136
			(610)495-6695				
Lewis Environmental, Inc	Robert Hilliard	rhilliard@lewisenvironmental.com	ext 246	155 Railroad Plaza/P.O. Box 639	Royersford	PA	19468
Miller Environmental	Bob Kleinschmidt	bob.k@millereiv-wv.com	(304) 292-8655	514 Hartman Run Road	Morgantown	WV	26505
Mistik Construction	Leo Makosky	lmakosky@mistikconstruction.com	(412)322-1121	1300 Brighton Road	Pittsburgh	PA	15233
MSEA Consulting	Rick Wyont	y.wont@misesinc.com	(304) 624-9700	609 West Main Street Building 2	Clarksburg	WV	26302
National Environmental Contracting	Kelley Fisher	kellyf@necontracting.com	(502) 261-0800	2660 Technology Drive	Louisville	KY	40299-6424
NCM Demolition and Remediation		ncmgroupp.com	(513) 376-9858	1718 Ralston Avenue	Cincinnati	OH	45223
NCM Demolition and Remediation		ncmgroupp.com	(800) 666-0741	3900 Vero Road	Baltimore	MD	21227
Panhandle Restoration			(304) 232-2321	42 38th Street	Wheeling	WV	26003
Panther Technologies, Inc.	Don Lamparella	dlamparella@panthertech.com	(609)714-2420	220 Rt 70 East, Suite B	Medford	NJ	08055
Puroclean	John Woods	jwoods@puroclean.com	(304) 594-3222	714 Venture Drive Suite 172	Morgantown	WV	26508
Remediation Services, Inc.	Butch Holum	bholum@rsi-ks.com	(620)331-1200	P. O. Box 587/ 2735 South 10th Street	Independence	KS	67301
Ryan Environmental	Al Anderson	aanderson@ryanenviro.com	(800) 649-5578	Route 4, Box 260. 76E	Bridgeport	WV	26330
SCS Environmental Contracting	Mark Matson	mmatson@scscontracting.net	614-778-3286	PO Box 8980	Fort Wayne	IN	46898
Shaw Group			412-372-7701	2790 Mooside Blvd.	Monroeville	PA	15146-2792
Spikes Chimney			(304) 864-3435		Reedsville	WV	

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Company Name	Contact Name	Email Address	Phone Number	Street Address 1	City	State	Zip
Sturm Environmental Services	Vicki Hoops	vhoops@sturmenviromental.com	(304) 623-6549	PO Box 650	Bridgeport	WV	26330
Tenny, Verlin Rodney			(304) 628-5175	P.O. Box 167	Spelter	WV	26438
Thrasher Engineering	Andy Kincell	akincell@thrashereng.com or thrasher@thrashereng.com	(304) 624-4108	30 Columbia Boulevard	Clarksburg	WV	26301
Triad Engineering	Jim Maurin	jmaurin@triadeng.com	(304) 296-2562	219 Hartman Run Rd	Morgantown	WV	26505

LENORA PERRINE, et al., individuals
residing in West Virginia, on behalf of
themselves and all others similarly situated,

CIVIL ACTION NO.
04-C-296-2
Thomas A. Bedell,
Circuit Judge

Defendants.

Presently before the Court is the Claims Administrator's January 18, 2012, Report submitted to the Court for review and consideration in connection with the Settlement Property Remediation (Clean-Up) Program approved by the Court's June 27, 2011 Order, providing (i) the Property Clean-Up RFP; and (ii) the Property Clean-Up RFP Bidder List.

IT IS SO ORDERED.

The Clerk of this Court shall provide certified copies of this Order to the following:

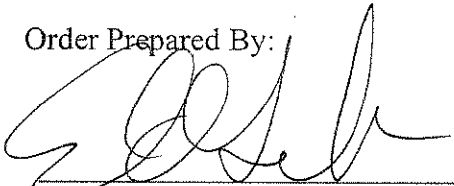
Stephanie D. Thacker
Guthrie & Thomas, PLLC
P.O. Box 3394
Charleston, WV 25333-3394

Meredith McCarthy
901 W. Main St.
Bridgeport, WV 26330
Guardian Ad Litem

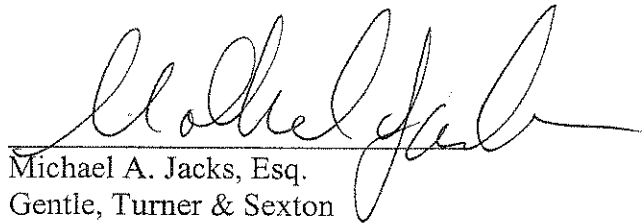
Virginia Buchanan
Levin, Papantonio, Thomas, Mitchell,
Rafferty & Proctor, P.A.
P.O. Box 12308
Pensacola, FL 32591

Edgar C. Gentle, III
Michael A. Jacks
Gentle, Turner & Sexton
P. O. Box 257
Spelter, WV 26438

Order Prepared By:



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Michael A. Jacks, Esq.
Gentle, Turner & Sexton
W.Va. Bar No 11044
P. O. Box 257
Spelter, WV 26438

ENTER: _____

Thomas A. Bedell, Circuit Judge