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State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

## Request for Quotation

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DIVISION OF NATURAL RESOURCES CASS SCENIC RAILROAD ST PARK ATTN: PARK SUPERINTENDENT BOX 107 CASS, WV

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## GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

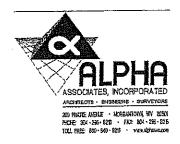
- 1. Awards will be made in the best interest of the State of West Virginia.
- 2. The State may accept or reject in part, or in whole, any bid.
- 3. All quotations are governed by the West Virginia Code and the Legislative Rules of the Purchasing Division.
- 4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
- 5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
- 6. Payment may only be made after the delivery and acceptance of goods or services.
- 7. Interest may be paid for late payment in accordance with the West Virginia Code.
- 8. Vendor preference will be granted upon written request in accordance with the West Virginia Code.
- 9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
- 11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
- 12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
- 13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, this contract is automatically null and void, and is terminated without further order.
- 14. HIPAA Business Associate Addendum The West Viginia State Government HIPAA Business Associate
  Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

#### INSTRUCTIONS TO BIDDERS

- 1. Use the quotation forms provided by the Purchasing Division.
- 2. SPECIFICATIONS: Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as EQUAL to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
- Complete all sections of the quotation form.
- 4. Unit prices shall prevail in cases of discrepancy.
- 5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
- 6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

#### SIGNED BID TO:

Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130



Cass Scenic Railroad State Park
The Clubhouse
Addendum Bulletin No. 2

## DEPT. of Natural Resources Cass Scenic Railroad Clubhouse Renovation

#### AAI PROJECT NO.: 0404039.00 DNR-80203

#### TO ALL BIDDERS:

#### 1.0 GENERAL NOTES:

.01 This Addendum is part of the Contract Documents for the Project.

#### 2.0 CORRECTIONS/ADDITIONS TO THE PROJECT MANUAL:

- .01 Division 08710-Door Hardware, 2.2 Hinges, B. Manufacturers:
   ADD: "6. Ives Manufacturing, an Ingersoll Rand Company (IVE)"
- .02 Division 08710-Door Hardware, 2.3 Spring Hinges, B. Manufacturers: ADD: "6. Ives Manufacturing, an Ingersoll Rand Company (IVE)"
- .03 Division 08710-Door Hardware, 2.4 Locks and Latches, B. Manufacturers: ADD: "e. Falcon Lock Manufacturing Company, an Ingersoll Rand Company (FAL)
  - f. Best Lock Manufacturing Company, a Stanley Hardware Company (BES)"
- .04 Division 08710-Door Hardware, 2.5 Auxiliary Locks and Latches, B. Manufacturers:
  - ADD: "e. Falcon Lock Manufacturing Company, an Ingersoll Rand Company (FAL)"
    - f. Best Lock Manufacturing Company, a Stanley Hardware Company (BES)"



July 3, 2007 Page 2 of 6

Division 08710-Door Hardware, 2.7 Lock Cylinders B. Cylinders: .05

1. Number of Pins: ADD: "6"

E. Manufacturers:

ADD: "4. Falcon Lock Manufacturing Company, an Ingersoll Rand Company (FAL)

.5 Best Lock Manufacturing Company, a Stanley Hardware Company (BES)"

Division 08710-Door Hardware, 2.9 Closers B. .Surface Closers: .06

1. Manufacturers:

ADD: "e. Dor-o-matic, an Ingersoll Rand Company (DOR) f. Ryobi Closer, a Stanley Hardware Company (RY)"

.07 Division 08710-Door Hardware, 2.12 Miscellaneous Door Hardware:

A. Boxed Power Supplies: 1. Manufacturers:

Omit: "No Substitution."

ADD: "b. Schlage Electronics (SCE)" B. Auxiliary Hardware: 1. Manufacturers:

ADD: "f. Ives Manufacturing, an Ingersoll Rand Company"

.08 Division 08710-Door Hardware, 3.6 Door Hardware Sets:

Set #1.0:

ADD: "Balance of hardware is existing."

Set #2.0:

ADD:

1 Set Seals

5050 CL NG

1 Wall Stop

409

613 RO

Set #3.0:

Correct: 6 Hinges, 2 Closer

ADD: Closer: CLP 1601 BF TBGN

ADD: 1 Set Seals 5050CL NG Grey

Set #4.0

OMIT: Door 002B

ADD: SET #4.1

Doors: 002B

6 Hinges

TA2714 4 1/2 X 4 1/2

MC

2 Surface Bolt

580-8

US10B

RO





Set #6.0:

OMIT: Door 101A, 101B

ADD: SET #6.1:

Doors: 101A, 101B

4	Hinges	TA2714 5 X 4 1/2	P	MC
	Latchset (Passage)	AU 5301LN	613	YΑ
	Magnetic Holder	998 24VDC	690	RX
	Closer	78B/D-RA TBGN	6 <del>9</del> 0	NO
1	Protection Plate (Kick)	K1050 6" x 3BE x CSK x 2" LDW	US10B	RO
1	Power Module	PM-24-1		SN
3	Silencers	608	GREY	RO

NOTE: Provide only ONE power Module for doors 101A and 101B

Sequence of Operation: Door normally closed and latched.

Door can be held open by wall magnet, when desired. Fail Secure - Loss of power or activation of fire alarm system de-energizes wall magnet and allows door to close and latch.

Delete Section 15407 replace with attached, revised section #15407. .09

#### CORRECTIONS/ADDITIONS TO THE PROJECT DRAWINGS: 3.0

- Sheet A-6.01 Door Hardware Schedule .01 OMIT: Matrix under Hardware Items. Refer to Division 08710 for Scheduled Hardware Sets.
- ADD to sheet P-1.01 Fire Protection General Note "16. Contractor .02 use CPVC Pipe in concealed locations in place of steel piping. The use of CPVC pipe shall be limited to concealed location not in plenums or subject to abuse. The Contractor shall transition between dissimilar materials as required by the piping manufacturers."
- ADD Sheet P-1.01 to Fire Protection General Notes "17. Sprinkler .03 Piping may be exposed on the third floor. Contractor shall keep exposed piping and sprinkler heads as high as possible to maintain occupant head room. All exposed piping shall be painted. Coordinate color and location of all exposed piping on the third floor with Owner and Architect prior to installation."



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.04 <u>Delete</u> sheet P-1.01. Plan Note #4 <u>replace with</u> "The tank shall come in sections capable of fitting through a standard door. The tank shall be capable of being installed in the space allowed and shall not conflict with other utilities. The assembled tank shall not exceed 48" Tall. Provide tank with air vent. Size vent as required for flow. Terminate vent with insect screen. One fire protection tank and the domestic water tank shall be equipped with an electronic level system. Plumbing Contractor shall be responsible for installation of the systems in their tanks and their associated control valves in the water lines as required. The Electrical Contractor shall be responsible for all power and controls wiring. The Plumbing Contractor shall coordinate the exact electrical and wiring requirements for the systems provided with the Electrical Contractor. "

#### 4.0 QUESTIONS

See attached with typed answers underlined.

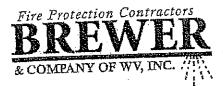




06/19/07 11:17 FAX 304 744 4899

BREWER & COMPANY

304 744 4899



Ø 002



June 18, 2007

Alpha Associates, Inc. 209 Prairie Ave., Suite 209 Morgantown, WV 26501

Attn: Rebecca Key

Re: Clubhouse Renovation for Cass Scenic Railroad Cass, WV

Brewer & Company is pleased to be quoting the automatic fire sprinkler work for the Greenbrier East project. We have a couple of questions regarding the job that we would like addressed.

- 1. The fire pump in the specs is not equipped with an automatic transfer switch, but electrical drawing E-5.01 shows the fire pump controller to have a transfer switch. This pump can be equipped with a transfer switch, but the arrangement will not be UL Listed, which is a WV Fire Marshal requirement. The fire pump for an NFPA 13R system is required to comply with NFPA 20 and WV State Fire Code. Has the WV Fire Marshal has given a waiver for the UL listing for the fire pump.
- 2. Can CPVC piping be used? This piping is UL Listed and FM Approved. See attached out sheet. If CPVC piping is not permitted then can Allied XL piping be used? This is the type of piping that is used on 99% of the sprinkler projects that we install. See cut sheet.

  See Change in specification attached. See attached out sheet. If sheet is the type of piping that is See 3.0, item .02 above for clarification.
- 3. Please note that some of the plaster on the walls will need to be removed, especially on the 3<sup>rd</sup> floor. Is the Owner responsible for removing the plaster wall since the plaster contains asbestos?
- Aspestos removal and lead paint removal is part of the Base Bid.

  4. The demo drawings note that the 3<sup>rd</sup> floor plaster ceilings do not get removed. The phase removal is part of the Base Bid. the 3<sup>rd</sup> floor need removed to install sprinkler piping or is this piping to be exposed? Some of the 3<sup>rd</sup> floor will need to be served by sidewall sprinklers which will require some of the wall plaster to be removed and the drawings note that this is asbestes containing plaster.
- 5. There may need to be some bulkheads built for the sprinkler piping on the 3rd floor.

  See 3.0, item .03 above. Sprinkler may be exposed in this location.
- 6. Will ACAD files be provided to aid in the shop drawing process? If so, will there be a cost associated with the procurement of these files?

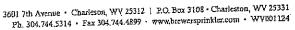
ACAD files are not available, except by signing a waiver and paying a fee. Refer to Section 01330 of the Project manual.

7. It appears that the fire water storage tanks will be manual fill. Please confirm.

7. If appears that the fire water storage takes will be transfer thank you,

See 3.0, item .04 above. Automatic fill.

Thank you,
Doug Meeks
Vice President







#### Q. Is there any lead paint or asbestos?

A. In summary, there was no asbestos present in the asphalt shingles of the roof. The entire exterior of the building is covered in lead paint. The interior has areas of lead paint that are not wide spread. The complete report will be made available for the contractor's use if requested.

Limited testing for various areas inside the building were performed for asbestos. The plaster has some asbestos. However, if an area is to be disturbed, than that area should be tested, it is possible that asbestos is not present in the plaster throughout the building as the plaster was hand mixed, and could vary from room to room. Areas of anticipated disturbance are highlighted on the construction drawings.

See attached Report dated March 8, 2006 and July 2005.

#### Clarification

The 1,000 A main disconnect switch shown on sheet E-1.01 is missing from the riser diagram on sheet E-5.01. The main disconnect switch should be installed between the tap for the fire pump and panel "A". The electrical contractor is responsible for providing all material and labor necessary to completely install the main breaker as required for a complete electrical service.

#### **End of Document**

Issued: July 3, 2007

Alpha Associates, Incorporated

Rebecca Jean Key, AIA

## SECTION 15407 - ELECTRIC-DRIVE, CENTRIFUGAL FIRE PUMPS

#### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Section 15000A General Mechanical and Electrical Requirements applies to and forms a part of Divisions 15 and 16. Articles of this section shall govern unless superseded by specific stipulations of that Division of the Specifications.
- C. Drawings M1 and E1 General Notes applies to and forms a part of Divisions 15 and 16.

#### 1.2 SUMMARY

- A. This Section includes electric-drive, in-line centrifugal fire pumps and the following:
  - 1. Full-service fire-pump controllers and automatic transfer switches.
  - 2. Fire-pump accessories and specialties.
  - 3. Pressure-maintenance pumps, controllers, accessories, and specialties.
  - 4. Alarm panels.
  - 5. Flowmeter systems.

#### 1.3 PERFORMANCE REQUIREMENTS

A. Pump, Equipment, Accessory, Specialty, and Piping Pressure Rating: 175-psig minimum working-pressure rating, unless otherwise indicated.

#### 1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, certified pump performance curves with each selection point indicated, operating characteristics, and furnished accessories and specialties for each fire pump and pressure-maintenance pump.

- B. Shop Drawings: For fire pumps and drivers, fire-pump controllers, fire-pump accessories and specialties, pressure-maintenance pumps, pressure-maintenance-pump controllers, and pressure-maintenance-pump accessories and specialties. Include plans, elevations, sections, details, and attachments to other work.
  - 1. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
  - 2. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Product Certificates: For each type of fire pump and fire-pump controller, signed by product manufacturer.
- D. Operation and Maintenance Data: For fire pumps and drivers, pressuremaintenance pumps, controllers, accessories and specialties, alarm panels, and flowmeter systems to include in emergency, operation, and maintenance manuals.

#### 1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain fire pumps, pressure-maintenance pumps, and controllers through one source from a single manufacturer for each type of equipment.
- B. Product Options: Drawings indicate size, profiles, and dimensional requirements of fire pumps, pressure-maintenance pumps, and controllers and are based on specific systems indicated. Refer to Division 1 Section "Product Requirements."
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. Comply with standards of authorities having jurisdiction pertaining to materials, hose threads, and installation.
- E. Comply with NFPA 20, "Stationary Pumps for Fire Protection," for fire pumps, drivers, controllers, accessories, and their installation.

#### 1.6 COORDINATION

A. Fire Pump and Control shall fit in area provide on drawing. Field verify sizes to avoid conflicts.

#### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

#### 2.2 CENTRIFUGAL FIRE PUMPS

- A. Description, General: UL 448, factory-assembled and -tested, electric-drive, centrifugal fire pumps capable of furnishing not less than 150 percent of rated capacity at not less than 65 percent of total rated head and with shutoff head limited to 140 percent of total rated head.
  - 1. Finish: Manufacturer's standard red paint applied to factory-assembled and -tested unit before shipping.
  - 2. Nameplate: Complete with capacities, characteristics, and other pertinent data.
- B. Fabricate base and attachment to fire pumps, pressure-maintenance pumps, and controllers with reinforcement to resist movement of pumps and controllers during a seismic event when their bases are anchored to building structure.
- C. In-Line Fire Pumps: Vertically mounted type with electric-motor driver directly mounted to pump casing.
  - 1. Manufacturers:
    - a. A-C Pump; ITT Industries.
    - b. Armstrong Darling, Inc.
    - c. Aurora Pump; Pentair Pump Group.
    - d. Patterson Pump Company.

- 2. Pump: Radially split cast-iron casing with suction and discharge flanges machined to ASME B16.1, Class 125 dimensions, unless otherwise indicated. The pump shall be a Fire Patterson Pump System 2x2x8 or approved equal.
  - a. Impeller: Cast bronze of construction to match fire pump, statically and dynamically balanced, and keyed to shaft.
  - b. Wear Rings: Replaceable, bronze.
  - c. Shaft and Sleeve: Steel shaft with bronze sleeve.
    - 1) Shaft Bearings: Grease-lubricated ball bearings in cast-iron housing.
    - 2) Seals: Stuffing box with minimum of four rings of graphite-impregnated braided yarn and bronze packing gland.
- 3. Driver: UL-listed, NEMA MG 1, open-dripproof, squirrel-cage, induction motor close coupled to the pump and complying with NFPA 20 and NFPA 70. Include wiring compatible with controller used.
  - a. Manufacturers:
    - 1) Emerson; U.S. Electrical Motors.
    - 2) Lincoln Electric Company (The).
    - 3) Marathon Electric, Inc.
    - 4) Armstrong
    - 5) Patterson
- D. Fire-Pump Characteristics and Specialty Data:
  - 1. Fire-Pump
    - a. Rated Capacity: 100 GPM
    - b. Total Rated Head: 75 feet of head (45 psi).
    - c. Suction Size: 2"
    - d. Discharge Size: 1-1/2"
    - e. Outlet Flange Class: 125.
  - 2. Speed: Same as driver.
  - 3. Electric-Motor Driver: 20 hp, 3500 rpm, 3 phase, 60 Hz.
  - 4. Test Header Size: 4" X 2-way, 2-1/2" NPT.
    - a. Hose Valve Size: NPS 2-1/2.
  - 5. Relief Valve Size: 3/4".

#### 2.3 FIRE-PUMP CONTROLLERS

A. Fire-Pump Controllers, General: UL 218 and NFPA 20; listed for electric-drive, fire-pump service and service entrance; combined automatic and manual operation; factory assembled and wired; and factory tested for capacities and electrical characteristics.

#### 1 Manufacturers:

- a. Cutler-Hammer.
- b. Armstrong
- c. Hubbell Industrial Controls, Inc.
- d. Patterson
- 2. Rate controllers for scheduled fire-pump horsepower and short-circuit withstand rating at least equal to short-circuit current available at controller location. Take into account cable size and distance from substation or supply transformers.
- 3. Enclosure: UL 50, Type 2, dripproof, indoor, unless special-purpose enclosure is indicated. Include manufacturer's standard red paint applied to factory-assembled and -tested unit before shipping.
- 4. Controls, devices, alarms, functions, and operations listed in NFPA 20 as required for drivers and controller types used, and specific items listed.
  - a. Isolating means and circuit breaker.
  - b. "Power on" pilot lamp.
  - c. Fire-alarm system connections for indicating motor running condition, loss-of-line power, and line-power phase reversal.
  - d. Automatic and manual operation, and minimum run-time relay to prevent short cycling.
  - e. Water-pressure-actuated switch with independent high and low calibrated adjustments responsive to water pressure in fire-suppression piping.
  - f. Automatic and manual shutdown.
  - g. System pressure recorder, electric ac driven with spring backup.
- 5. Nameplate: Complete with capacity, characteristics, approvals and listings, and other pertinent data.
- 6. Controller Sensing Pipes: Fabricate pipe and fittings according to NFPA 20 with nonferrous-metal sensing piping, NPS 1/4, with globe valves for testing controller mechanism from system to pump controller as indicated. Include bronze check valve with 3/32-inch orifice in clapper or ground-face union with noncorrosive diaphragm having 3/32-inch orifice.

- 7. Temperature rating: 130 deg.F.
- B. Full-Service Fire-Pump Controllers: Patterson Fire Pump System 2x2x8B or approved equal.
  - 1. Type Starting: Solid State soft Start.
  - 2. Mounting: Shall mount to pump skid.
  - 3. Automatic Transfer Switches: UL 218 and UL 1008 and requirements for and attached to fire-pump controllers. Include enclosure complying with UL 50, Type 2, with automatic transfer switch with rating at least equal to fire-pump driver-motor horsepower. Include ampere rating not less than 115 percent of motor full-load current and suitable for switching motorlocked rotor current.

#### 2.4 FIRE-PUMP ACCESSORIES AND SPECIALTIES

- A. Match fire-pump suction and discharge ratings as required for fire-pump capacity rating. Include the following:
  - Automatic air-release valve.
  - 2. Circulation relief valve.
  - 3. Suction and discharge pressure gages.
  - 4. Eccentric-tapered reducer at suction inlet.
  - 5. Concentric-tapered reducer at discharge outlet.
  - 6. Test-Header Manifold: Ductile-iron or brass body for hose valves. Include nozzle outlets arranged in single line; horizontal, flush-wall mounting attachment; and rectangular, polished chrome-plated brass finish escutcheon plate with lettering equivalent to "PUMP TEST CONNECTION."
  - 7. Test-Header Manifold: Ferrous body for hose valves. Manufacturer's standard finish. Include bronze or cast-iron, exposed-type valve header with nozzle outlets; and round, brass escutcheon plate with lettering equivalent to "PUMP TEST CONNECTION."
  - 8. Hose Valves: UL 668, straightway pattern, and bronze with cap and chain. Include NFPA 1963 hose thread that complies with local fire department standards and finish same as for test-header-manifold escutcheon plate.
  - 9. Ball Drip Valve: UL 1726.
  - 10. Main Relief Valve: UL 1478,
  - 11. Discharge Cone: Closed type.
  - 12. Finish: Manufacturer's standard factory-applied red paint unless brass or other finish is specified.

## 2.5 PRESSURE-MAINTENANCE PUMPS

- A. Pressure-Maintenance Pumps, General: Factory-assembled and -tested pumps with electric-motor driver, controller, and accessories and specialties. Include cast-iron or stainless-steel casing and bronze or stainless-steel impellers, mechanical seals, and suction and discharge flanges machined to ASME B16.1, Class 125 dimensions unless Class 250 flanges are indicated and except that connections may be threaded in sizes where flanges are not available.
  - 1. Finish: Manufacturer's standard color paint applied to factory-assembled and -tested unit before shipping.
  - 2. Nameplate: Complete with capacity, characteristics, and other pertinent data.
- B. Multistage, Pressure-Maintenance Pumps: Multiple-impeller type complying with HI 1.1-1.2 and HI 1.3 requirements for multistage centrifugal pumps. Include base. Patterson Fire Pump System 2x2x8B or approved equal.
  - 1. Manufacturers:
    - a. A-C Pump; ITT Industries.
    - b. Grundfos Pumps Corp.
    - c. Sterling Peerless Pump; Sterling Fluid Systems Group.
    - d. Armstrona
    - e. Patterson
  - 2. Driver: NEMA MG 1, open-dripproof, squirrel-cage, induction motor complying with NFPA 20 and NFPA 70. Include wiring compatible with controller used.
- C. Controllers: UL 508; factory-assembled, -wired, and -tested, across-the-line type for combined automatic and manual operation. Patterson Fire Pump System 2x2x8B or approved equal.
  - Manufacturers:
    - a. Cutler-Hammer Model FD-JP1D or approved equal.
    - b. Firetrol, Inc.
    - c. Hubbell Industrial Controls, Inc.
  - 2. Enclosure: UL 508 and NEMA 250, Type 2, wall-mounting type for field electrical wiring.

- a. Finish; Manufacturer's standard color paint applied to factory-assembled and -tested unit before shipping.
- 3. Rate controller for scheduled horsepower and include the following:
  - a. Fusible disconnect switch.
  - b. Pressure switch.
  - c. Hand-off-auto selector switch.
  - d. Pilot light.
  - e. Running period timer.
- 4. Temperature Rating: 130 deg.F.
- D. Accessories and Specialties: Match pressure-maintenance-pump suction and discharge ratings as required for pump capacity rating. Include the following:
  - 1. Circulation relief valve.
  - 2. Suction and discharge pressure gages.
- E. Pressure-Maintenance-Pump Characteristics and Specialty Data:
  - 1. Rated Capacity: 10 gpm.
  - 2. Total Rated Head: 148 feet of head (64 psi).
  - 3. Pump Speed: 3500 rpm.
  - 4. Electric-Motor Driver Size: 1.0 hp, 3500 rpm, 3 phase, 60 Hz.

#### 2.6 SOURCE QUALITY CONTROL

- A. Test and inspect fire pumps with their controllers according to NFPA 20 for certified shop tests:
- B. Verification of Performance: Rate fire pumps according to requirements indicated.

#### PART 3 - EXECUTION

#### 3.1 EXAMINATION

A. Examine areas, concrete bases, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of fire pumps.

- B. Examine roughing-in for fire-suppression piping to verify actual locations of piping connections before fire-pump installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. Install and align fire pump, pressure-maintenance pump, and controller according to NFPA 20.
- B. Install pumps and controllers to provide access for periodic maintenance including removal of motors, impellers, couplings, and accessories.
- C. Install suction and discharge piping equal to or greater than diameter of firepump nozzles.
- D. Install valves that are same size as piping connecting fire pumps, bypasses, test headers, and other piping systems.
- E. Install pressure gages on fire-pump suction and discharge at pressure-gage tappings.
- F. Support pumps and piping separately so weight of piping does not rest on pumps.
- G. Install piping accessories, hangers and supports, anchors, valves, meters and gages, and equipment supports.
- H. Install flowmeters and sensors where indicated.
- I. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted. Furnish copies of manufacturers' wiring diagram submittals to electrical Installer.

#### 3.3 ALIGNMENT

- A. Align split-case fire-pump and driver shafts after complete unit has been leveled on concrete base, grout has set, and anchor bolts have been tightened.
- B. Align piping connections.

- C. Align pump and driver shafts for angular and parallel alignment according to HI 1.4 and to tolerances specified by manufacturer.
- D. Align vertically mounted, split-case pump and driver shafts after complete unit has been made plumb and anchor bolts have been tightened.

#### 3.4 CONNECTIONS

- A. Piping installation requirements are specified in Division 13 Section "Fire-Suppression Piping." Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to pumps and equipment to allow service and maintenance.
- C. Connect water supply and discharge piping to fire pumps with flexible connectors. Connect water supply and discharge piping to pressure-maintenance pumps with flexible connectors. Refer to Division 15 Section "Fire-Suppression Piping" for flexible connectors.
- D. Connect relief-valve discharge to point of disposal.
- E. Connect controllers to pumps.
- F. Connect fire-pump controllers to building fire-alarm system. Refer to Division 16 Section "Fire Alarm."
- G. Ground equipment according to Division 16 Section "Grounding and Bonding."
- H. Connect wiring according to Division 16 Section "Conductors and Cables."

#### 3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing.
- B. Perform field tests for each fire pump when installation is complete. Comply with operating instructions and procedures in NFPA 20 to demonstrate compliance with requirements. Where possible, field correct malfunctioning equipment, then retest to demonstrate compliance. Replace equipment that

cannot be satisfactorily corrected or that does not perform as indicated, then retest to demonstrate compliance. Verify that each fire pump performs as indicated.

- C. Perform the following field tests and inspections and prepare test reports:
  - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
  - 2. Final Checks before Startup: Perform the following preventive-maintenance operations and checks:
    - a. Lubricate oil-lubrication-type bearings.
    - b. Remove grease-lubrication-type bearing covers, flush bearings with kerosene, and clean thoroughly. Fill with new lubricant according to manufacturer's written instructions.
    - c. Disconnect coupling and check electric motor for proper rotation. Rotation shall match direction of rotation marked on pump casing.
    - d. Verify that pump is free to rotate by hand. If pump is bound or if it drags even slightly, do not operate until cause of trouble is determined and corrected.
  - 3. Starting procedure for pumps is as follows:
    - a. Prime pump by opening suction valve and closing drains, and prepare pump for operation.
    - b. Open sealing-liquid supply valves if pump is so fitted.
    - c. Start motor.
    - d. Open discharge valve slowly.
    - e. Observe leakage from stuffing boxes and adjust sealing-liquid valve for proper flow to ensure lubrication of packing. Do not tighten gland immediately, but let packing run in before reducing leakage through stuffing boxes.
    - f. Check general mechanical operation of pump and motor.
  - 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
  - 5. Furnish fire hoses in number, size, and length required to reach storm drain or other acceptable location to dispose of fire-pump test water. Fire hoses are for field-acceptance tests only and are not property of Owner.

#### 3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire pumps, drivers, controllers, and pressure-maintenance pumps. Refer to Division Section "Closeout Procedures" or "Demonstration and Training."
- B. Refer to Division 15, Section 15000-A General Mechanical and Electrical Requirements, paragraph, Instruction of Owner's Employees.

END OF SECTION 15407

Boggs Environmental Consultants, Inc.

1 College Avenue Frederick, Maryland 21701 Office Fax (301) 694-5687 (301) 694-9799

363 High Street Morgantown, West Virginia 26505 Office Fax (304) 292-1095 (304) 292-2320

March 8, 2006

Mr. Steve DeBarr, PE
Assistant Chief
Planning, Engineering & Development
West Virginia Department of Natural Resources
Capital Complex, Building 3, Room 719
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

Ref: Plaster Wall and Ceiling Sampling, Cass Scenic Railroad, Cass, West Virginia

Dear Mr. DeBarr:

Per your request, Boggs Environmental Consultants, Inc., (BEC), collected samples of suspect asbestos-containing wall and ceiling materials from the interior areas of the building referred to as "The Clubhouse" located on the grounds of Cass Scenic Railroad in Cass, West Virginia. The purpose of the sample collection was to determine which interior plaster walls/ceilings contained regulated quantities of asbestos prior to a planned renovation project. The sample collection was conducted by a BEC staff member who is a asbestos building inspector and has successfully completed Environmental Protection Agency (EPA) approved training classes and is licensed in the State of West Virginia as an asbestos building inspector. All samples were collected in accordance with the EPA recommended inspection and sampling protocols.

Representative bulk samples were collected of suspect asbestos-containing wall and ceiling materials which had the same physical characteristics and appearance (i.e., homogeneous). These included samples of gypsum wall board, joint compound, wall plaster and ceiling plaster.

All of the collected bulk samples were submitted to International Asbestos Testing Laboratories (IATL), Inc. of Mt. Laurel, New Jersey for analysis. The samples were first examined using a stereo-binocular microscope, and then using a Polarized Light Microscope with a dispersion staining lens, as recommended in the EPA "Method For The Determination Of Asbestos In Bulk Building Materials" (July 1993, EPA/600/R-93/116). IATL is accredited by the National Voluntary Laboratory Accreditation Program, which was established by the National Institute for Standards and Testing, by the American Industrial Hygiene Association and is licensed in the State of West Virginia for the analysis of asbestos in bulk materials.

Mr. Steve DeBarr February 2, 2006 Page 2

The EPA defines any material as asbestos containing if it contains 1% or greater asbestos by weight. Materials containing less than 1% asbestos are not currently regulated. The following table describes the plaster materials which were determined by the laboratory to contain asbestos:

#### First Floor

SAMPLE#	ASBESTOS MATERIAL DESCRIPTION & LOCATION
CH012406-B4	Wall plaster from dining room
CH012406-B5	Wall plaster from front wall in foyer
CH012406-B6	Wall plaster from fireplace room
CH012406-B10	Wall plaster from stairway wall in stairs between first and second floors

#### Second Floor

SAMPLE #	ASBESTOS MATERIAL DESCRIPTION & LOCATION
CFI012406-B11	Wall plaster from left side hall
CH012406-B13	Wall plaster from left bedroom next to hall, front side of house
CH012406-B14	Wall plaster from bedroom above front porch, front side of house
CH012406-B16	Wall plaster from bathroom wall *
CH012406-B20	Wall plaster from right side hall

<sup>\*</sup> Plaster sampled previously from this area was determined to contain asbestos

No plaster material observed in the basement area of the structure.

All ceilings (except for the third floor) are constructed of gypsum wall board and do not contain asbestos.

All other samples collected were reported by the testing laboratory as having less than the regulated limit of 1% or greater asbestos by weight. Laboratory reports for all samples collected are attached for your reference.

Mr. Steve DeBarr February 2, 2006 Page 2

Based upon observations made during the survey, and the results of the laboratory analysis, BEC recommends the following:

#### First Floor

• The plaster wall material located in the dining room, foyer, fireplace room and stairway walls between the first and second floors was identified by the laboratory to contain asbestos. These materials must be properly removed prior to any maintenance, renovation, or demolition activity which would disturb them in accordance with all federal and State of West Virginia asbestos regulations.

#### Second Floor

• The plaster wall material located in the both halls, left front bedroom, bedroom located above the front porch, and the bathroom with the damaged wall plaster was identified by the laboratory to contain asbestos. These materials must be properly removed prior to any maintenance, renovation, or demolition activity which would disturb them in accordance with all federal and State of West Virginia asbestos regulations.

All outside contractors must be made aware of the identified asbestos materials prior to performing any work on the walls which will prevent accidental disruption of the asbestos material and subsequent exposure.

If you have any questions or require further assistance, please do not hesitate to call. Sincerely,

Jon B. Anderson Manager, West Virginia Office

Enclosures:

### Asbestos Bulk Sample Data Table Clubhouse Cass Scenic Railroad Cass, West Virginia

## First Floor

Sample #	Sample Description & Location	Sample Result
CH012406-B1	Gypsum wallboard from wall next to door entering kitchen	ND
CH012406-B2	Joint compound applied to gypsum board in kitchen	ND
СН012406-В3	Gypsum wallboard from ceiling in kitchen	ND
CH012406-B4	Wall plaster from dining room	2.4% Chrysotile *
CH012406-B5	Wall plaster from wall between front doors in foyer	3.3% Chrysotile *
CH012406-B6	Wall plaster from back wall of room with fireplace	2.5% Chrysotile *
CH012406-B7	Wall plaster from front wall in room next fireplace room	ND
CH012406-B8	Wall plaster from back bedroom	ND
CH012406-B9	Wall plaster from fire panel closet in back bedroom	ND
CH012406-B10	Wall plaster from stairway wall between first and second floors	3.1% Chrysotile *

ND - No Asbestos Detected

<sup>\* -</sup> These samples were analyzed using the Stratified Point Count Method

## Asbestos Bulk Sample Data Table Clubhouse Cass Scenic Railroad Cass, West Virginia

## Second Floor

Sample #	Sample Description & Location	Sample Result
CH012406-B11	Wall plaster from hall wall	4.0% Chrysotile *
CH012406-B12	Wall plaster from far left bedroom located on the front side of house	ND
CH012406-B13	Wall plaster from bedroom next to hall left front side of house	3.2% Chrysotile *
CH012406-B14	Wall plaster from bedroom above front steps on front side of house	3.8% Chrysotile *
CH012406-B15	Wall plaster from left side bedroom, back side of house	ND
СН012406-В16	Wall plaster from damaged section of wall in bathroom	Trace< 1% Chrysotile *
CH012406-B17	Wall plaster from right side bedroom, back side of house	ND
CH012406-B18	Wall plaster from right side bedroom, front side of house	ND
CH012406-B19	Wall plaster from right bathroom, back side of house	0.5% Chrysotile *
CH012406-B20	Wall plaster from right side hall	2.6% Chrysotile *

<sup>\* -</sup> These samples were analyzed using the Stratified Point Count Method

ND - No Asbestos Detected

## Asbestos Bulk Sample Data Table Clubhouse Cass Scenic Railroad Cass, West Virginia

## Third Floor

Sample #	Sample Description & Location	Sample Result
CH012406-B21	Wall plaster from stair wall	ND
CH012406-B22	Ceiling plaster from left room	ND
CH012406-B23	Wall plaster from left room	ND
CH012406-B24	Ceiling plaster from middle room	ND
CH012406-B25	Ceiling plaster from right room	ND

#### FINAL TECHNICAL REPORT

## LEAD-BASED PAINT INSPECTION And LIMITED ASBESTOS MATERIALS SURVEY

of

The Clubhouse At Cass Scenic Railroad Cass, West Virginia

PREPARED FOR:

Alpha Associates, Inc. 209 Prairie Avenue Morgantown, WV 26501

BEC PROJECT # WV05052

July 2005

#### PREPARED BY:

## **BEC**

BOGGS ENVIRONMENTAL CONSULTANTS, INC.



1 College Avenue Frederick, Maryland 21701 301.694.5687 Fax 301.694.5687

363 High Street Morgantown, West Virginia 26505 304.292.1095 Fax 301.292.2320

APPENDIX IV

# Lead Paint Inspection And Limited Asbestos Materials Survey Report

Of

The Club House at Cass Scenic Railroad Cass, West Virginia

## TABLE OF CONTENTS

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4.0	RECOMMEN	DATIONS	6
5.0	STUDY LIM	TATIONS	6
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APPENDIX I	П	Site Drawings	

**BEC Personnel Accreditations** 

#### SECTION 1.0 EXECUTIVE SUMMARY

Boggs Environmental Consultants, Inc (BEC) was retained by Alpha Associates to conduct a lead-based paint inspection and perform limited asbestos sampling of structure referred to as "The Clubhouse" located on the Historic Cass Scenic Railroad Property in Cass, West Virginia.

The purpose of the inspection and sampling was to identify lead-based paint and painted components located on the interior and exterior of the structure prior to a planned renovation project. In addition, a limited asbestos materials survey was performed on the interior and exterior of the structure. Please note, the scope of work did not include a comprehensive asbestos materials location survey. The lead-based paint inspection and asbestos sampling was conducted by BEC staff members who are accredited by the Environmental Protection Agency (EPA) and licensed in the State of West Virginia as asbestos and lead paint building inspectors.

As a result of the inspection, lead-based painted components were identified on interior and exterior areas of the structure. The finished wall plaster present throughout the interior of the structure has been determined through laboratory analysis to contain asbestos. The laboratory results indicated the roofing materials and linoleum flooring were non-asbestos containing materials.

## 2.0 SAMPLING AND ANALYTICAL METHODS

#### 2.1 Lead-Based Paint

The lead-based paint survey was performed utilizing a direct read, real-time display, X-Ray Fluorescence (XRF) lead-in-paint testing device manufactured by RMD, Incorporated of Watertown, Massachusetts (Model # LPA-1, Serial Number 1701) to determine paint film lead concentrations. The XRF testing unit action limit was set at 1.0 milligrams per square centimeter (mg/cm²) in accordance with State of West Virginia Regulations. The sampling strategy was developed using room equivalent, substrate, and component definitions in accordance with the Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, with the 2000 revisions, for the purpose of identifying lead-based painted components as a part of an environmental site inspection. Calibration checks were made three (3) consecutive times on the XRF using a National Institute of Science and Technology lead standard of 1.0 mg/cm<sup>2</sup>, followed by calibration checks on a non-lead containing substrate three (3) times prior to starting and at the completion of the inspection. Readings were collected from exposed, interior and exterior painted surfaces, including window components, doors and door components, ceilings, walls, floors, baseboards, thresholds, cabinets, closet shelves, decorative trim, stair components, access doors, exterior siding, exterior fascia, railing systems, porch ceilings, support structures and foundations.

2.1.1 Inspection Procedures

A lead-based paint inspection is a surface-by-surface investigation to determine the presence of lead-based paint. Procedures are based on HUD Guidelines (2000 revisions). The <u>Inspection Procedures</u> adhere to the EPA Performance Characteristics Sheet for the particular XRF instrument used, as well as the manufacturer's modifications and recommendations. The lead-containing surface coating inspection was conducted to generally identify building components with lead-containing surface coatings. The testing was performed using a RMD LPA-1 X-Ray Fluorescence (XRF) manufactured by RMD Corporation, 44 Hunt Street, Watertown, Massachusetts.

2.1.2 Definition of Room Equivalent

A <u>Room Equivalent</u> is an identifiable part of a building, such as a room, exterior Sides, or an exterior area. Hallways, stairways, and exterior areas are all examples of room equivalents. Walls are identified as A, B, C and D. The "A" wall in each room corresponds with the wall on which the main entrance of the building is located. The remaining walls are located in order proceeding clockwise from "A" wall. Multiple windows and doors on the same Side of the building or room are labeled by numbers starting with the 1st unit on the left of the interior room being identified as #1.

2.1.3 Delineation of Room Equivalent

Each room equivalent is made up of <u>Components</u>. Components may be located inside or outside a building. For example, components in a room are the ceiling, floor, walls, a door and its casing, the window sash, and window casing. The <u>Substrate</u> is the material underneath the paint. Many substrates exist; however HUD Final Guidelines recommend classifying substrates into one of six substrate types: brick, concrete, drywall, metal, plaster, and wood. These substrate types are intended to include a broad range of materials. If the true substrate is not one of the six types, the substrate that most closely matches the true substrate is selected. For substrates on top of substrates, such as plaster on concrete, the substrate directly beneath the paint surface is used. A <u>Testing Combination</u> is characterized by the room equivalent, component, and substrate. The <u>Testing Location</u> is a specific area on a testing combination where the XRF (x-ray fluorescence) instrument measures for lead-based paint.

#### 2.2 Asbestos

Representative samples of specific suspect asbestos containing materials were collected from interior and exterior areas of the building including roofing materials, linoleum flooring material, and wall plaster. Sampling of specific materials was requested by Alpha Associates, Inc. A comprehensive asbestos inspection of the property was beyond the scope of this assignment and was therefore not performed.

All of the collected bulk samples were submitted to International Asbestos Testing Laboratories (IATL), Inc. of Mt. Laurel, New Jersey for analysis. The samples were first examined using a stereo-binocular microscope, and then using a Polarized Light Microscope with a dispersion staining lens, as recommended in the Environmental Protection Agency (EPA) "Method For The Determination Of Asbestos In Bulk Building Materials" (July 1993, EPA/600/R-93/116). IATL is accredited by the National Voluntary Laboratory Accreditation Program, by the American Industrial Hygiene Association and is licensed in the State of West Virginia for the analysis of asbestos in bulk materials.

## 3.0 SURVEY RESULTS AND DISCUSSION

#### 3.1 Lead-Based Paint

HUD and the State of West Virginia define paint as "lead-containing" if 1.0 mg/cm² by XRF or 0.5% lead by weight is detected. The following is a list of interior and exterior areas where components or surfaces were determined to be painted with lead-based paint. The XRF data table is provided as Appendix II.

#### INTERIOR

Paint Locations Associated R	leading
White painted Wood Door in the Living Room Entrance Area on Side C	018
White Painted Wood Panel in the Living Room Entrance Area on Side C	019
Ceiling in the Living Room Entrance Area on Side C	020
White Painted Wood Door Stop on the French Door in the Living Room Entrance Area	021
White Painted Wood Door Stop of the Main Entrance in the Foyer	039
White Painted Wood Door in the Kitchen on Side D	070
White Painted Wood Door Frame in the Kitchen on Side D	071
White Painted Wood Window Sash in the Kitchen on Side D	075
White Painted Wood Window Frame in the Kitchen on Side D	076
White Painted Wood Baseboard in the Kitchen on Side A	077
Blue Painted Closet Wood Door on the Closet Side of Bathroom 3	131
Blue Painted Closet Wall on Side B of the Bathroom 3 Closet	133
White Painted Wooden Closet Shelf on Wall B of Bedroom 7 Closet	175
White Painted Wooden Closet Shelf on Wall B of Bedroom 7 Closet	179
White Painted Wood Window Sash on Wall D of the Third Floor	193
White Pointed Wood Door on Wall C of the Basement	210

#### EXTERIOR

Associated Reading #
223,241,246, 259, 267, 278
225
224
220-222, 242-244, 252, 253, 260, 261, 281, 282
248-251
254, 255,
247
262
271, 272, 274
273
268
269
280
283

#### 3.2 Asbestos

The EPA considers materials containing greater than 1% asbestos to be "asbestos-containing". Materials containing less than 1% asbestos are not currently regulated. Listed below are materials the laboratory identified as asbestos-containing. Specific quantities of asbestos and non-asbestos materials are detailed within the laboratory reports which are provided as Appendix I.

SAMPLE#	ASBESTOS MATERIAL DESCRIPTION & LOCATION
CH070605-07	Wall Plaster from 2 <sup>nd</sup> Floor Bathroom
CH070605-08	Wall Plaster from 1st Floor Living Room
CH070605-09	Wall Plaster from the 3 <sup>rd</sup> Floor

#### 4.0 RECOMMENDATIONS

Based upon the laboratory analysis and the observations made during the site survey, BEC recommends the following:

## 4.1 Lead-Based Paint and Lead-Based Components

Results of the survey have determined that lead-based paint or lead containing components are present on interior and exterior surfaces. Prior to renovations or demolition activities which would disturb paint or lead-based components, engineering controls should be implemented to prevent the migration of lead- containing dust and potential exposures to building occupants and contractors.

#### 4.2 Asbestos

Based on laboratory analysis the wall and ceiling plaster located throughout the building is asbestos containing material. In accordance with federal and West Virginia State regulations, all of the identified asbestos-containing materials must be properly removed prior to any maintenance, renovation, or demolition activity which would disturb them. All outside contractors must be made aware of the identified asbestos materials prior to any work in the property to prevent accidental disruption of the identified asbestos materials and subsequent exposure. Due to the limited number of samples collected of the plaster material, BEC recommends that additional samples of the plaster ceiling and wall materials be collected to demarcate the exact locations of the asbestos-containing plaster.

During asbestos removal, BEC recommends that you retain an industrial hygiene consultant, independent of the abatement contractor, to monitor and document that the abatement is being conducted in accordance with applicable federal and West Virginia State asbestos regulations.

#### 5.0 STUDY LIMITATIONS

BEC in no way warrants that additional asbestos and lead-based paints do not exist within inaccessible areas of the properties, nor are we accepting any liability if such is found at some future time or could have been found if interior demolition or other destructive methods were utilized to gain access. We are asserting that we have actually visited the site and conducted our inspection in accordance with generally accepted engineering practices to produce the testing data contained within this report.

## APPENDIX I

Asbestos Laboratory Data Table

## Asbestos Bulk Sample Data Table The Clubhouse, Cass, West Virginia BEC Project # WV05052

Sample #	Sample Description & Location	Sample Result
CH070605-01	Black Roof Shingle from Low Roof at Kitchen Entrance on the rear of the house	ND
CH070605-02	Tar Paper from Main Roof (Bottom Layer)	ND
CH070605-03	Black Roof Shingle from Main Roof (3rd Layer)	ND
CH070605-04	Black Roof Shingle from Main Roof (2 <sup>nd</sup> Layer)	ND
CH070605-05	Green Roof Shingle from Main Roof (Top Layer)	ND
CH070605-06	Linoleum Flooring material	ND
CH070605-07	Wall Plaster from 2 <sup>nd</sup> Floor Bathroom	1.8 % Chrysotile
CH070605-08	Wall Plaster from 1st Floor Living Room	1.5% Chrysotile
CH070605-09	Wall Plaster from the 3 <sup>rd</sup> Floor	2.0% Chrysotile

ND - No Asbestos Detected

## CERTIFICATE OF ANALYSIS

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morganiown

W٧

Report Date: 7/13/2005

Project:

Club House, Cass WV

Project No.:

WY05052

#### **BULK SAMPLE ANALYSIS SUMMARY**

Lab No.:

2311468

Description / Location:

26505

Black Shingle

Roof

% Asbestos

Client No.: CH07605-I Type

% Non-Aspestre Fibrous Material

<u> Type</u>

% Non-Fibrous Material

Name Detected

None Detected

15

Cellulose

Lab No.:

2311469

Client No.: CH07605-2

Type

Description / Location:

Black Tar Paper

% Non-Fibrous Material

% Arizestos None Detected

% Non-Asbestos Fibrous Material

<u>Type</u>

None Detected

65

Callulose

35

Lab No.:

2311470

Description / Location:

Black Shingle

Roof

% Asbestos

Client No.: CHO7605-3

% Non-Asbestos Fibreus Material

Type

% Non-Fibrous Material

None Detected

Type None Detected

Calluiosa

75

Lab No.:

2311471

Description / Location:

Black/Green Shingle

Roof

% Aspestos

Client No.: CH07605-4 Type

% Non-Asbestos Pibrous Material

Турс

% Non-Fibrous Material

None Detected

Nane Defected

25

Collulose

#### NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Mothod: EPA 600/R-93/116

Comments:

(PC) Indicates Similified Point Count Method performed. Method not performed unless stated. Small asterious fibers may be missed by PLM due to resolution limitations of the optical (PC) materials attended from the control of the principles of the control of the layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: J. Weitzman

Approved By:

Frank E. Ehrenfeld, HI Laboratory Director

Date:

7/12/2005

Page 1 of 3

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054 Telephone: 856-231-9449 Fax: 856-231-9818

### CERTIFICATE OF ANALYSIS

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WΛ

Report Date: 7/13/2005

Project:

Club House, Cass WV

Project No.:

WV05052

#### BULK SAMPLE ANALYSIS SUMMARY

Lab No.:

2311472

Description / Location:

26505

Black/Green Shingle

Roof

Client No.: CH07605-5

% Non-Asbestos Pibrous Material

<u>Tyr</u>

% Non-Fibrous Material

% Asbestos None Detected

Type None Detected

Cellulose

80

Lab No.:

2311473

Description / Location: Off-White/White Vinyl Sheet Flooring

Client No.: CH07605-6

% Ashestos

Type

<u>Type</u>

% Non-Pibrous Material

None Detected

% Non-Ashestos Fibrous Material

Celluloss

None Detected

20 Trace

Fibrous Glass

80

Lab No :

2311474

Client No.: CH07605-7

Description / Location:

Grey/White Wall Flaster

% Asbestos

Type

% Non-Axhestos Fibrous Material

Type

% Non-Fibrous Material

PC 1.8

Chrysotile

None Detected

None Detected

PC 98.2

Lab No.:

2311475

Description / Location:

Grey/White Wall Plaster

Client No.: CH07605-8 % Astratos

<u>Type</u>

% Non-Fibrous Material

PC 1.5

Typs Chrystillo % Non-Ashestoa Fibrous Material None Detected

None Detected

PC 98.5

#### NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

This confidential report relates only to those item(s) tested and dues not represent an endorsenem by NIST-NVLAP, AHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the taboratory.

Analysis Method: EPA 600/R-93/116

Comments:

(PC) indicates Straifed Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical Description of the contract of

Analysis Performed By: J. Weitzman

Date:

7/12/2005

Page 2 of 3

16000 Horizon Wzy Unit 100 Mt. Laurel, NI 02054 Telephone: 856-231-9449 Pag: 856-231-9818

## CERTIFICATE OF ANALYSIS

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

26505 WV

Report Date: 7/13/2005

Project:

Club House, Cass WV

Project No.:

WV05052

#### **BULK SAMPLE ANALYSIS SUMMARY**

Lab No.: Client No.: 2311476 CH07605-9

Description / Location:

Grey/White Wall Plaster

T'ync

% Non-Asbestos Filmous Material

Турс

% Non-Fibrous Material

% Astestos PC 2.0

Chrysotile

Mone Detected

None Detected

98

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

This confidential report relates only to those item(s) tested and does not represent an andorsement by NIST-NVLAP, AIHA or any agency of the U.S. government This report small not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

(PC) indicates Statistical Point Counce Method performed. Method not performed unless stated. Small subsence fibers may be missed by PLM due to resolution limitations of the optical microscopy. In proceedings presented the stample of the stample

Analysis Performed By: J. Weitzman

Date:

7/12/2005

Page 3 of 3

# APPENDIX II

Lead-Based Paint Data Table (XRF Readings)

# LEAD PAINT INSPECTION REPORT

REPORT NUMBER:

S#01701 - 07/06/05 10:27

INSPECTION FOR:

Alpha Associates, Inc 209 Prairie Aenue Morgantown, WV 26501

PERFORMED AT:

The Clubhouse Cass Scenic Railroad Cass, West Virginia

INSPECTION DATE:

07/06/05

INSTRUMENT TYPE:

RMD

MODEL LPA-1 XRF TYPE ANALYZER

Serial Number: 01701

ACTION LEVEL:

1.0 mg/cm<sup>2</sup>

**OPERATOR LICENSE:** 

Inspection Date:

07/06/05

The Clubhouse

Report Date: Abatement Level: 7/8/2005 1.0 Cass Scenic Railroad Cass, West Virginia

Report No.

S#01701 - 07/06/05 10:27

Total Readings: Job Started: Job Finished: 289 Actionable: 64 07/06/05 10:27 07/06/05 14:22

Readin	nd				Paint			Lead	
No.		Structure	Location	Member	Cond	Substrate	Color	(mg/cm²)	Mode
		010 5 7							
		oom 018 Ext-Upp Wall	er V Lft		P	Wood	White	>9.9	QΜ
223	A		0 1111	•	P	Wood.	White	>9.9	OM
225	A	Fascia			P	Wood	White	>9.9	OM
224	A.	Soffit	Ctr	Sash	P	Wood	White	>9.9	OM
221	A	Window	Ctr	Well	1₽	Wood	White	1.3	OM
220	A	Window	ULE	Merry		1,000			<b></b> -
		m 7 BR 2	Ctr		P	Wood	White	>9.9	MQ
222	A.	Win Frame	CTE		-			,	
Exte	rior R	oom 019 2nd Fl	Deck						
226	A	Wall	υ Ctr		P	Wood	White	>9.9	QM
	Sec	ond Floor Porch							
231	A	Floor	Ctr		₽	Concrete	Gray	1.6	QM
229	A	Door Frame	Rgt		P	Wood	White	>9.9	QM
238	В	Corner board	Rgt		P	Wood	White	>9.9	QM
237	В	Soffit	_		P	Wood	White	>9.9	$\mathbf{Q}\mathbf{M}$
236	В	Window	Ctr	Well	P	Wood	White	>9.9	QM
228	В	Win Frame	Lft		P	Wood	White	>9.9	QM
235	В	Ceiling	Ctr		Þ	Wood	White	>9.9	QM
233	_	ch Ceiling							
233	C	Wall	L Ctr		P	Wood.	White	>9.9	QM
233		ch Siding	2 002						
030		Railing	Ctr	Railing	P	Wood	White	>9.9	QM
239	C D	ch Railing	O CA	Manage	_				<u>.</u>
647		•	Ctr	U column		Wood	White	>9.9	OM
234		Column		O COTUMN	. •	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	POI	ch Screen Suppo	TC						
Exte	rior R	oom 020 Ext Sid	e A						
246	A	Wall	u Lft		P	Wood	White	>9.9	QM
	Sid	ing							
241	A	Wall	U Ctr		P	Wood.	White	>9.9	QM
		ing							
253	A	Window	Ctr	Well	P	Wood	White	>9.9	QM
242	A	Window	Ctr	Sash	Þ	Wood	White	>9.9	QM
£ 7£		nt Porch		•					
243	A	Window	ctr	sill	P	Wood.	White	>9.9	$\mathbf{QM}$
245	A	Door	Lft	Lft casing	₽	Wood	White	>9.9	QM
245	A	Railing	Ctr	Balusters	P	Wood	White	>9.9	QM
249	A	Railing	Ctr	Railing	P	Wood	White	1.5	QM
248 250	A.	Column	Ctr	U column	P	Wood	White	>9.9	QM
	A. A	Win Frame	Lft		P	Wood	White	>9.9	QM
252	A. A.	win frame Floor	Ctr		P	Wood	Gray	4.1	QM
247			Ctr		P	Wood	White	>9.9	QM
251	A	Gate Post	Ctr		P	Wood	White	>9.9	QM
254	A	Ceiling			P	Wood	White	>9.9	QM
255	A.	Support	Ctr			noou	Jilla 60		***
		ch Support	G		P	Wood	White	>9.9	OM
244	A	Win Frame	Ctr		=	HOOG	202244		
	Wir	ndow Frame							

		<del></del>			Dains			Lead	
Reading			4	******	Paint	Substrate	Color	(mg/cm²)	Mode
No.	Wall	Structure	Location	Member	COIN	Substiate	00101	(mgrom )	,11000
259	В	Wall	L Ctr		₽	Wood	White	3.4	ÖМ
	Sid	ing		_	_		TOTAL 2 As as	>0 0	QM
261	B	Window	ctr	Sash	P	Wood	White	>9.9	
262	В	Door	Ctr	υ Ctr	₽	Mood	White	>9.9	QM
	Base	ement Door			_			> 0 D	ov.
260	В	Win Frame	Ctr		P	Wood	White	>9.9	QМ
Exteri	or R	oom 022 Ext Sid	le C						
267	C	Wall	U Ctr	•	P	Wood	White	>9.9	QΜ
	sid	ing							
268	C	Door	Ctr	u ctr	P	Wood	White	7.9	QM
	To :	Living Room							
272	C	Railing	Ctr	Balusters	Þ	Wood	White	>9.9	QM
271	C	Railing	Ctr	Railing	æ	Wood	White	>9.9	ÓΜ
	Decl	k Railing							
274	C	Column	Ctr	U column	₽	Wood	White	>9.9	QM
	Por	ch Support							
269	C	Door Panel	ctr		P	Wood	White		QM
273	-	Ceiling	ctr		P	Wood	White	>9.9	QM
									<del> </del>
		oom 023 Ext Sid	le D U Ctr		P	Wood	White	5.2	OM
278	D	Wall	O CLE		E	nood		2.2	Znz
	Sid	_	a	Sash	P	Wood	White	>9.9	OM
282	D	Window	Ctr		.₽	Wood	White	>9.9	QM
281	D	Window	Ctr	sill	P	Wood	White		QM
280	Ð	Door Frame	Ctr		19 19	Wood Wood	White		ŎΜ
283	D	Ceiling	Ctr		£	MOOG	HILL CC		Ø1.7
Interi	or R	oom 001 Living	Rm						
020	C	Ceiling			P	Wood	White	>9.9	ØМ
		ling of small a	rea betwe	en doors					
018	C	Door	Ctr	U Ctr	P	Mood	White	8.8	QM
	Tota	erior Side of I	oor to Ex	terior					
019	C	Side Panel	Lft		$\mathbf{F}'$	Wood	White	>9.9	QM
013	Çmə	ll area between		oom doors a	nd exte	rior doors			
021	C	Door Stop	Lft		P	Wood	White	9.7	QM
UZI		erior Side of I		rs					
		oom 003 Foyer			ъ	Wood	White.	2.3	OM
039	$\mathbf{A}_{\cdot}$	Door Stop	Rgt		P	MOOC	WILL LE.	2.3	Δm
Inter	Lor R	oom 006 Kitcher	1						-
		Baseboard	Ctr		P	Wood	White	1.6	QM
075	ď	Window	Ctr	Sash	₽	Wood	White	1.9	QM
070	D	Door	Ctx	U Ctr	P	Wood	White	1.8	QM
		Exterior							
076	D	Win Frame	Lft		P	Wood	White	2.3	QМ
071	D	Door Frame	Rgt		P	Wood	White	1.7	QM
~ · ~	~								
Inter	ior R	oom 011 Bath 3			_	T	73.00	>0 0	OM
133	${f B}$	Wall	L Ctr		15	Drywall	Blue	>9.9	QM
	In	Closet							C) C
131	23.	Door	Ctr	v Ctr	P	Wood	Blue	>9.9	QM.
	Int	erior Side of (	Closet Doc	er					
T		oom 014 Bedroom	7				<u> </u>		
inter:	lor K B	Shelf	ctr		I	Wood	White	8.0	QM
7.13	<del>د</del> ي	DIETT			_				

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
179	Clo:	set Lower She Shelf	lf Ctr		1	Wood	White	8.7	QМ
1/2		test of Lower	Shelf						
Interi	ior R	oom 016 3rd F	loor	<del></del>					
193		. Window y painted int	Ctr erior window	Sash w component o	p n the	Wood 3rd floor	White	>9.9	QM
Tatori		oom 017 Basem							<del></del>
210	C	Door	Ctr	U Ctr Readings	P -	DooM	White	6.4	QM

Inspection Date:

07/06/05 7/8/2005 The Clubhouse Cass Scenic Railroad Cass, West Virginia

Report Date:
Abatement Level:
Report No.

1.0

S#01701 - 07/06/05 10:27

Total Readings:

289

Job Started: Job Finished: 07/06/05 10:27 07/06/05 14:22

Read	Rm	Room					Paint			Lead	**
No.	No.	Name	Wall	Structure	Location	Member	Cond	Substrate	Color	(mg/cm²)	wode
,,,,,						<del> </del>					
										-0.1	TC
1		CALIBRATION								-0.2	TC
2		CALIBRATION								-0.2	TC
3		CALIBRATION								0.8	TC
4		CALIBRATION								0.8	TC
Ē		CALIBRATION								0.8	TC
€		CALIBRATION Living Rm	A	Wall	U Rat		P	Plaster	White	0.0	QM
7		Living Rm		Wall	L Ctr		I	Plaster	White	0.0	QM
٤		Living Rm		Wall	L Rgt		I	Plaster	White	-0.1	QM
2		Living Rm	-	Wall	U Rgt		I	Plaster	White	-0.2	$\mathbf{OM}$
10		Living Rm	_	Ceiling	-		P	Drywall	White	0.0	QM
1.3 1.2		Living Rm		Window	Ctr	Sill	I	Wood	Varnish		QM
1.2		Living Rm	,	Window	Ctr	Sash	I	Mood	Varnish		ОW
14		Living Rm	_	Baseboard	. Ctr		I	Wood	Varnish		QM
1.5		Living Rm		Floor			P	Wood	Varnish	· -0.1	ОW
1.		Living Rm		Door	Ctr	U Ctr	P	Wood	Varnish		QM
1'		Living Rm		Door	Rgt	U Rgt.	P	Wood	White	-0.2	OM
1	, 003	Interior Sic			_						
14	0.01	Living Rm		Door	Ctr	U Ctr	₽	Wood	White	8.8	ΟM
. ž., č	, 00.	Interior Sic		Door to	Exterior						
19	0.00	Lizring Rm	C	Side Pane	1 Lft		,-	Wood	White	>9.9	QM
<u>,,,</u>	<del>,</del> 002	Small area l	betwe	en Living	Room doc	rs and e	xterio	doors			
21	1 001	Triving Rm	C	Ceiling			P	Wood	White	>9.9	QM
		Ceiling of	smal.I	area bet	ween door	s		* * * * * * * * * * * * * * * * * * * *			
2	1 00:	Living Rm	C	Door Stop	Lft	;	₽	Wood	White	9.7	QM
	_	Exterior Sic	de of	French I	oors						074
2	2 00:	Living Rm	Ð	Header	Ctr	•	I	Concrete	White	~0.1	QM
		Chimney Head	der					•	andr 1.		60.6
2	3 00:	Living Rm	D	Vent Fran	me Ctr	•	Ι	Wood	White	0.0	ÖМ
		Heating Ven	t Fra	eme				_ a	TOTAL ALL	-0.2	OM
2	4 00	Living Ru	В	Wall	L Ctr	:	P	Concrete	White	-0.2	Qra
		Chimeny Wall	1					****	White	-0.3	OM
2	5 00:	Living Rm	Ð	Door Pane	<u>1</u> Lft	<b>:</b>		Wood	MITTE	-0.5	Qui.
		To BR 1			51			Wood	White	-0.3	OM
2	6 00:	L Living Rm	D	Door		: Lft jam		Plaster	Blue	-0.5	QM
2		2 Bedroom 1	A	Wall	U Lft			Plaster	Blue	-0.3	OM
2		Bedroom 1	В	Wall	U Ctr		_	Plaster	Blue	-0.5	OM
2		Bedroom 1	C	Wall	L Cti			Plaster	Blue	-0.5	OM
3		2 Bedroom 1	D	Wall	L Ct:	•		Drywall	White	-0.1	OM
=	-	2 Bedroom 1	A	Ceiling	T (1)	_		Plaster	Yellow	-0.6	OM
3	2 00.	2 Bedroom 1	A	Wall	L Cti	•	F				_ =
		Closet Wall			tt At-		7	Plaster	White	-0.6	QM
		3 Foyer	A.	Wall	U Cta			Plaster	White	-0.3	QM
		3 Foyer	В	Wall	U Ct		_	Plaster	White	-0.4	QM
		3 Foyer	C	Wall	U Ct:	and the second second		Plaster	Red	-0.4	QM
		3 Foyer	D	Wall	. <u>1</u> 1 - L-L-1	<b>L</b>	_	Drywall	White	-0.3	QM
3	7 00	3 Foyer	D	Ceiling							

.eau :	Rm .	Room						Paint			Lead	
	No.	Name	Wali	Structure	Locat	ion	Member	Cond	Substrate	Color	(mg/cm²)	Mode
20	003	Foyer	7.	Door		Ctr	U Ctr	P	Wood	White	-0.2	QM
38	003	Interior Sic			DOE							
39	003	Foyer		Door Stop		Rqt		₽	Wood	White	2.3	QM
40		Foyer		Mailbox		Ctr		I	Metal	White	0.5	QM
41		Dining Rm		Wall	U	Ctr		P	Plaster	White	-0.7	QM
41	004	Mold Present										
42	004	Dining Rm		Wall		Ctr		P	Plaster	White	-0.6	QM
43		Dining Rm	-	Wall	υ	Ctr		P	Plaster	White	0.0	QM
44		Dining Rm	_	Wall	υ	Ctr		P	Plaster	White	-0.3	QM
45	-	Dining Rm	_	Ceiling				I	Drywall	White	-0.3	QM
46		Dining Rm	B	Frame		Lft		I	Drywall	White	0.0	QM
40	004	Bullentin B							-			
47	00#	Dining Rm	C	Door		Rat	U Rgt	I	Wood	White	~0.3	QM
47	004	Closet Door	•			-	-					
48	004	Dining Rm	c	Shelf		Ctr		I	Wood	White	-0.2	QM
40	004	Closet Shel:	•	D11444								
49	004	Dining Rm	C	Wall	L	Ctr		I	Wood	White	-0.3	QM
49	004	Closet Wall	_	nera								-
50	AAE			Wall	L	Rgt		P	Drywall	White	-0.4	QM
50		Pantry Pantry		Wall		Ctr			Drywall	White	-0.4	ØМ
51		•		Wall		Ctr			Drywall	White	-0.6	ΩM
52		Pantry	_	Wall		Ctr			Drywall	White	-0.3	о́м
53		Pantry		Ceiling	Ü	001			Drywall	White	-0.3	QM
54		Pantry	A	Shelf		Ctr			Wood	White	0.0	QM
55	005	Pantry	A.	SUGIT		CLL		_	11004		0.0	32
		Closet Shel:		Deam		~+~	U Ctr	Þ	Wood	White	-0.5	QM
56	005	Pantry	C	Door			O GLE		.,,,,,,	***************************************	4.0	~-
	205	To Kitchen		Door Frame	_	Lft		P	Mood	White	-0.4	QM
57	บบร	Pantry	C	DOOL FLAM	8	יינננ		_	110012		<b></b>	36
		To Kitchen	-	D		T.E.	Lft casin	. D	Wood	White	-0.3	OM
58		Pantry	C	Door		Ctr	THE COST	_	Wood	White	-0.3	OM
59	005	Pantry	C	Board	h-n	Ulul		-	1,000	11122.00	0.5	***
		Server's Wi			116517	~++	sill	133	Mood	White	0.7	- OM
60	005	Pantry	_	Window		CEE	23.2.2.1.	£	HOOG	,iiii ce	0.7	¥224
		Server's Wi				~L-	Toodom	-	Wood	White	-0.3	QM
61	005	Pantry		Window		CEE	Header	<b>.</b>	WOOL	MILL CE	-0.3	ZII.
		Server's Wi							TH 3	White	-0.3	OM
62		Pantry	С	Baseboard		Ctr		_	Wood Plaster	White	-0.3	QM
63		Kitchen		Wall		Lft						_
64		Kitchen	B	Wall		Rgt			Plaster Plaster	White White	-0.4 -0.2	QM QM
65		Kitchen	С	Wall		Lft					· ·	_
66	006	Kitchen	D	Wall	L	Ctr			Plaster	White	-0.3	QM
67	006	Kitchen	D	Ceiling					Drywall	White	-0.3	QМ
68	006	Kitchen	A	Door Fram	e	Lft		Р	Wood	White	0.5	QM
		To Pantry						_	#:			
69	006	Kitchen	A	Door			U Ctr		Wood	White	0.0	QM
70	006	Kitchen	D	Door		Ctr	U Ctr	Þ	Mood	White	1.8	QM
		To Exterior							<i>-</i> _			
71	006	Kitchen	D	Door Fram	e	Rgt			Wood	White	1.7	QM
72	006	Kitchen	D	Door			Lft casin	-	Wood	White	~0.5	OM
73		Kitchen	D	Door		Ctr	U Lft	P	Wood	White	0.3	QM
	_	Interior of	Scre	een Door								
74	006	Kitchen	Đ	Window			sill	P	Wood	White	0.4	QM
		Kitchen	_	Window		Ctr	Sash	P	Wood	White	1.9	QM
	BD6	N1 LCHEN	v			~						
75 76		Kitchen	D	Win Frame		Lft		P	Wood	White	2.3	QM

Read	Rm No.	Room Name	Wall	Structure	Location	Member	Paint Cond Substrate	Color	Lead (mg/cm²)	Mode
No.	NO.		11011	J., 2312.V						
78	007	Bedroom 2		Wall	v Ctr		I Plaster	White	-0.5	ΟM
		No Painted						Tille d A. a.	0.7	cout.
79	007	Bedroom 2	-	Wall	U Ctr		P Plaster	White	-0.7	ΟM.
80	007	Bedroom 2	С	Wall	U Ctr		I Plaster	White	-0.4	QM.
81	. 007	Bedroom 2	Ð	Wall	U Ctr		I Plaster	White	-0.5	QM OM
82	007	Bedroom 2	A	Ceiling			I Drywall	White	-0.1	QM
83	007	Bedroom 2	A	Window	Ctr	sill	I Wood	Black	-0.3	QM
84	007	Bedroom 2	A	Window	Ctr	Sash	I Wood	Black	0.1	QM
85	007	Bedroom 2	A	Win Frame	Ctx		I Wood	Black	-0.2	QM
86		Bedroom 2	C	Support	Ctr		I Wood	White	-0.1	QM
		Closet Supp	port							
87	008	Bedroom 3		Wall	L Ctr		I Wood	White	-0.4	ОW
88		Bedroom 3	В	Wall	L Ctr	•	I Wood	White	-0.3	OΜ
89		Bedroom 3	C	Wall	L Ctr	•	I Wood	White	-0.5	QM
90		Bedroom 3	D	Wall	L Ctr	•	I Wood	White	-0.1	QM
91		Bedroom 3	c	Ceiling			I Drywall	White	-0.2	QM
92		Bedroom 3	Ċ	Window	Ctr	Sill	I Wood	Tan	-0.5	QM
93		Bedroom 3	c	Window		Sash	I Wood	Tan	-0.1	QM
		Bedroom 3	c	Window		Header	I Wood	Tan	-0.3	QM
94			c	Raseboard			P Wood	Tan	-0.3	ÕМ
95		Bedroom 3	_	Shelf	Rgt		I Wood	White	0.0	OM
98	008	Bedroom 3	. A	Speri	Ag t	•	1 11000	MILLOG	0.0	2.22
		Closet She			<b>n</b>		T Wood	Tan	-0.4	QM
97	008	Bedroom 3		Door Fram	e Rgt	•	I Wood	ran	-0.4	Qui
		Closet Door					w er 3	50 ··· ···		034
98	008	Redroom 3	C	Door	_	U Ctr	I Wood	Tan	-0.4	QM
		Closet Side	e of	Closet Do				_		A
99	008	Bedroom 3	C	Door	•	Rgt casin		Tan	-0.2	QM
100	009	Bath 2	A	Wall	U Ctr	•	I Drywall	White	-0.2	QM
101	009	Bath 2	В	Wall	v Ctr	ı	I Drywall	White	-0.4	QМ
102	009	Bath 2	C	Wall	υ Ctx	•	I Drywall	White	~0.3	QM
103	009	Bath 2	D	Wall	V Ctr	•	I Drywall	White	-0.1	QМ
104	009	Bath 2	В	Ceiling			I Drywall	White	-0.2	QM
105		Bath 2	В	Window	Ctr	sill	I Wood	White	-0.3	QM
106		Bath 2	В	Window	Ctr	Sash	I Wood	White	-0.1	QM
107		Bath 2	В	Win Frame	Rgt		I Wood	White	-0.1	QM
10	405	Window Fra								
108	2 000	Bath 2	В	Door	Ctr	U Ctr	I Wood	White	-0.5	QM
TOO	) 603	Door to Hai		DOOL						
100		Bath 2		Baseboard	Ctr		I Wood	White	-0.1	QM
109		Bath 2		Door		Rot casin		White	-0.2	ΩM
110				Wall	v Ctr	_	I Drywall	White	-0.3	OM
111		Bedroom 4					I Drywall	White	-0.4	QM
112		Bedroom 4		Wall	U Rgt		I Drywall	White	-0.5	QM
113		Bedroom 4		Wall	U Lft				-0.4	
114		Bedroom 4		Wall	U Rgt	:	I Drywall	White		OM OM
1.15		Bedroom 4	_	Ceiling		0477	I Drywall	White	-0.2	QM OM
110		Bedroom 4		Window		sill	I Wood	Black	-0.4	MQ
117		Bedroom 4	D	Window		Sash	I Wood	Black	0.0	QM OM
118	3 010	Bedroom 4	D	Window		Apron	Doow I	Black	-0.3	QM
119	010	Bedroom 4	В	Shelf	Ctr	•	I Wood	Green	0.0	QМ
		Closet She.	l£							
120	011	Bath 3		Wall	V Ctr	:	I Plaster	White	~0.3	QM
12:		Bath 3	В	Wall	U Ctr		I Plaster	Whi.te	-0.2	QM
122		. Bath 3	Ċ	Wall	U Ctr		I Plaster	White	-0.2	QM
123		Bath 3	Ď	Wall	U Ctr		I Plaster	White	-0.2	ОM
			A	Ceiling			I Drywall	Whi.te	-0.2	ŎΜ
124	4 OTI	. Bath 3	А.	certrud			_ ~			***

Read No.	Rm No.	Room Name	Wali	Structure	Location	>n		Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
							-			_		
125	011	Bath 3	D	Window	(	Ctr	sill		Wood	Tan	-0.4	QΜ
126		Bath 3	D	Win Frame		Lft		I	Mood	Tan	-0.1	ОМ
		Window Fram	=									
127	011	Bath 3		Window		Ctr	Sash	I	Wood	Tan	-0.1	QM
128		Bath 3	A	Baseboard	4	Ctr		I	Wood	Tan	-0.2	OM
129		Bath 3	В	Shelf	1	Ctr		I	Wood	Blue	-0.2	QΜ
.1.2.	, ,,,,	Closet Shel	f									
130	011	Bath 3		Door		Lft	Lft casing	<b>T</b> D	Wood	Blue	0.0	QM
131		Bath 3		Door		ctr	U Ctr	. P	Wood	Blue	>9.9	QM
727	L UIL	Interior Si			or							
4 30		Bath 3		Door		Ctr	U Ctr	Þ	Wood	Tan	-0.1	QM
132	2 011	Exterior of										
			B	Wall	т. 1	ctr		P	Drywall	Blue	>9.9	QM
133	3 077	Bath 3	ь	Marr					<b>-</b>			•-
		In Closet	~	Wall	<b>T.</b> 1	Ctr		₽	Wood	Blue	0.0	OM
134	1 011	Bath 3	C	Mart	Д.			_				-
		In Closet	-	~~. 7 7	τ.	Ctr		ъ	Wood	Blue	-0.2	OM
135	011	Bath 3	D	Wall	יע	LLL		-	,,,,,,,	2240	٠.2	2
		In Closet	_			a	77 Oi-m	ъ	Wood	Tan	-0.3	OM
136	5 011	Bath 3	В	Door	,	Ctr	ប Ctr	£	MOOG	1 en1	-0.5	Chr
		Door to Hal	1						ww	W	0.4	O) f
137	7 011	Bath 3	В	Door Fram	<b>3</b> .	Lft		Ъ	Wood	Tan	0.4	QM
		To Hall							_~ .			
138	3 012	Bedroom 5	A	Wa <u>ll</u>	U ·	Ctr			Plaster	Blue	-0.5	QM
139	9 012	Bedroom 5	В	Wall	ប	Ctr			Plaster	Blue	-0.5	QM
140	012	Bedroom 5	C	Wall	ប	Ctr			Plaster	Blue	-0.4	QM
14:	1 012	Bedroom 5	Ð	Wall	U	Ctr			Plaster	Blue	-0.3	QM
14:		Bedroom 5	A	Ceiling				P	Drywall	Blue	-0.2	QM
143		Bedroom 5	C	Door		Ctr	Header	I	Wood	Gray	-0.4	QM
,		Door to Bal	conv									
14	4 012	Bedroom 5	_	Door Fram	e	Ctr		I	Wood	Gray	-0.3	QM.
Par. Ar.		To Closet										
14	5 012	Bedroom 5	C	Door		Ctr	U Ctr	I	Wood	Gray	-0.1	QM
7.4.		To 2nd Floo										
14	c 012	Bedroom 5		Window		Ctr	sill	r	Wood	Gray	-0.3	QM
		Bedroom 5		Window			Rgt casing		Wood	Gray	-0.2	QM
14	•	Bedroom 5	-	Window		_	Sash		Wood	Gray	-0.1	QM
14			D	Baseboard		Ctr			Mood	Gray	-0.2	QM
1.4:		Bedroom 5				Rgt			Wood	Gray	0.0	QΜ
15	0 0.1.2	Bedroom 5 Transom Fra	B 							<b></b>		~ -
						ው <sub>ተ</sub> ተ		Ŧ	Wood.	Gray	-0.5	QM
15		Bedroom 5		Door Stop		Rgt Ctr			Plaster	White	-0.6	QM
1.5		Bedroom 6							Plaster	White	-0.5	QM.
15.		Bedroom 6		Wall		Rgt			Plaster	White	-0.4	QM.
15		Bedroom 6	C	Wall		Rgt			Plaster	White	~0.5	QM
15:		Bedroom 6	Ð	Wall	L	Ctr						
15		Bedroom 6	-	Ceiling		_ ~-			Drywall	White	-0.1	QM OM
15	7 013	Bedroom 6	D	Door Fram		Lft			Wood	Gray	-0.3	OM.
15	8 013	Bedroom 6	D	Win Frame		Lft		I	Wood	Gray	~0.2	QM
		Window Fram	æ						_			
15	9 013	Bedroom 6	A	Win Frame		Rgt		I	Wood	Gray	-0.3	QM
16		Bedroom 6	A	Window		Ctr	Sash	I	Wood	Gray	-0.1	QM
16	•	Bedroom 6		Window		Ctr	Apron	1	Mood	${\tt Gray}$	-0.4	QM
16		Bedroom 6		Baseboard		Ctr	-	I	Wood	Gray	-0.3	QM
16		Bedroom 6		Door		Ctr	U Ctr	I	Wood	Gray	-0.3	QM
1.0	_	Exterior of										
15	# O14	Bedroom 7		Wall	U	Rqt	,	I	Plaster	White	-0.4	QM
16	~ AT,	TOUTANT (			~							

Read	Rm	Room						Pain			Lead	
No.	No.	Name	Wall	Structure L	ocati	on	Member	Cond	i Substrate	Color	(mg/cm²)	Mode
,												
												,
165	014	Bedroom 7	В	Wall	U	Lft	•		Plaster	White	-0.4	QM
166		Bedroom 7	C	Wall	ប	Ctr		P	Plaster	White	-0.3	QM
167		Bedroom 7	D	Wall	υ	Ctr		P	Plaster	White	-0.5	QΜ
168		Bedroom 7	В	Ceiling				I	Drywall	White	-0.2	QM
169		Bedroom 7	A	Window		ctr	sill	I	Wood	White	-0.1	QM
103	, 01.4	Middle Windo		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
177	016	Bedroom 7	Α	Window		Ctr	Sash	I	Wood	White	0.0	QM
170	. — .		A	Window			Lft casing		Mood	White	-0.2	OM
171	_	Bedroom 7		Baseboard		Ctr			Wood	White	-0.2	QM
172		Bedroom 7	B			Lft	•		Wood	White	-0.3	QM
173	014	Bedroom 7	¢	Door Frame		-14,6-6		-	noou			
		Door	_	_		~ £1	TEN mada	- 7	Wood	Brown	0.3	QM
174	014	Bedroom 7	В	Door		TLE	Lft casing	3 2	Mood.	PLOMI	0.5	Qm
		Closet Door								waterd at a	2.0	~~
175	014	Bedroom 7	B	Shelf		Ctr		I	Wood	White	8.0	QΜ
		Closet Lower	She	elf								
176	014	Bedroom 7	D	Support		Ctr		Ι	Wood	White	-0.3	QM
		Closet Upper	: She	∍l£								
177	014	Bedroom 7	В	Shelf		Ctr		I	Wood	White	-0.1	QM
211	011	Upper Shelf	_									
178	ns.d	Bedroom 7	В	Shelf		Ctr		I	Wood	White	-0.2	QM
111	) OT#	Small closet										
4.77		Bedroom 7		Shelf		Ctr		7	Wood	White	8.7	QM
179	014	Re-test of I						_		••		~
				Shelf		ctr		т	Wood	White	-0.2	OM
180	014	Bedroom 7	B			C L1.		_	11000	,,,,,,,,,,	0.12	20
		Closet Upper				~		_	Wood	White	-0.1	OM
183	014	Bedroom 7	α	Shelf		Ctr		_	MOOG	MILL CE	-0.1	/Sta
		Corner Shelf							<b>774</b>	Tille of the sec	Λ.	340
182		2nd Fl Hall	A	Wall		Ctr			Plaster	White	~0.5	QM
183	015	2nd Fl Hall	В	Wall		Ctr			Plaster	White	-0.4	QM.
184	015	2nd Fl Hall	C	Wall	Ų	Ctr			Plaster	White	-0.2	QМ
185	015	2nd Fl Hall	D	Wall	U	Ctr			Plaster	White	-0.4	OM
186	015	2nd Fl Hall	Ð	Ceiling					Drywall	White	-0.3	QM
181		3rd Floor	A	Wall	ប	Ctr		₽	Plaster	White	-0.4	QM ····
		Attic / Rec	Area	a.								
188	016	3rd Floor		Wall	U	Ctr		₽	Plaster	White	-0.3	QM
189		3rd Floor	C	Wall	IJ	Ctr		₽	Plaster	White	0.0	QM
190		3rd Floor	D	Wall	U	Ctr		P	Plaster	White	-0.4	QM
19:		3rd Floor	A					p	Plaster	White	-0.7	QM
192		3rd Floor	D	Wall	Ţ,	Ctr		P	Plaster	Blue	-0.6	QM
193	•	3rd Floor	Ď	Window			Sash	p	Wood	White	>9.9	OM
13.	01.0	Only painted			THE C'1			- - 3x	d floor			_
4.0			1 711	Wall	νη Ο. Τ.	ompo.	iiciic Vii Lii	ם כ	Congrete	White	0.3	OM
194	f 0.T.0			матт	4.0	CLL			001101-000	*******	0.5	****
		Chimney wall		_		~4	TT C.L.	٠,	Wood	White	0.0	QМ
19:	016	3rd Floor	C	Door		CLL	υ Ctr		MOOG	MILLOS	0.0	Con
		Closet Door					_		•			
19	017	Basement	C				Treads		Wood	Gray	-0.2	QM
191	7 017	Basement	C	Stairs			Risers		Wood	Gray	-0.3	QM
191	3 017	Basement	C	Stairs		Lft	stringer		Wood	Gray	-0.2	QM
199		Basement	C	Landing		Ctr			wood	Gray	-0.4	QM
20		Basement	C	Floor				P	Concrete	Gray	-0.5	QM
20:		Basement	A	Wall	Ŀ	Ctr		P	Concrete	White	-0.1	QM
20		Basement	В	Wall		Ctr		P	Concrete	White	0.2	QM
20:		Basement	В	Wall		Ctr		P	Wood	White	-0.2	QM
20.		Basement	ĉ	Wall		Ctr			Wood.	Green	0.7	QM
-		Basement	D	Wall		Ctr			Concrete	White	-0.1	QM.
20	U±1	Dag-men r	مرد	71 CLL-L	بد					*		-

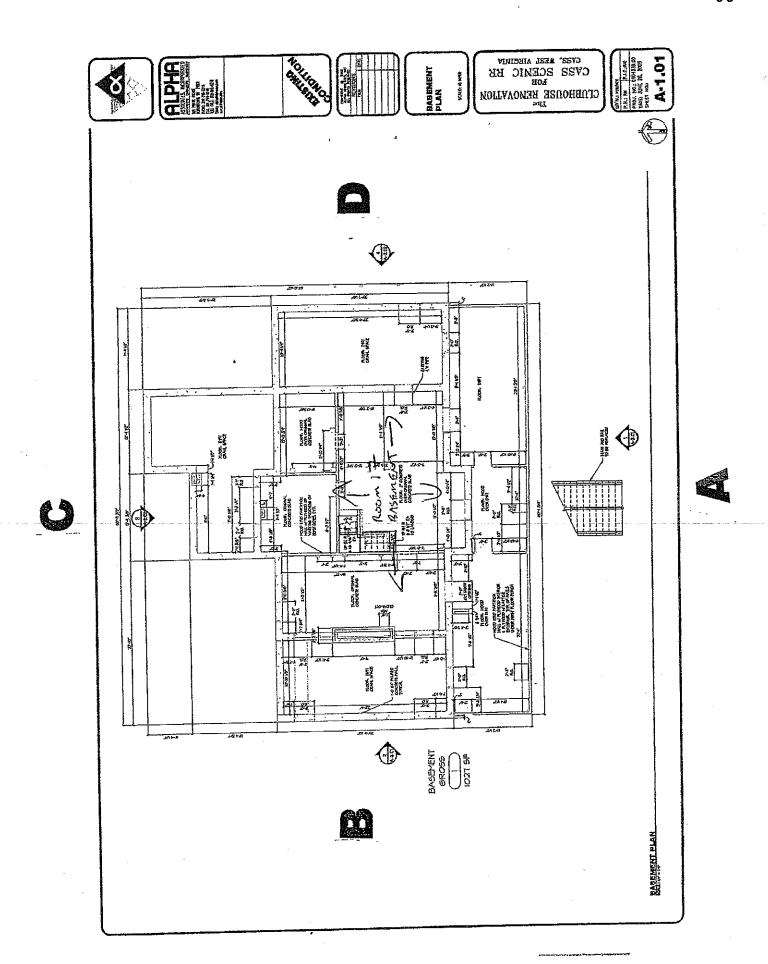
Read	Rm	Room	_					Pain	t		Lead	
No.	No.	Name	Wall	Structure	Locat	ion	Member	Conc	Substrate	Color	(mg/cm²)	Mode
				· · ·				·				····
206	017	Basement	A	Door		Ctr	U Ctr	P	Wood	White	0.6	$\mathbf{Q}\mathbf{M}$
207		Basement	A	Door		Lft	Lft casing	g P	Wood	White	-0.6	QМ
208		Basement	A	Door Frame		Rat		₽	Wood	White	0.7	QΜ
209		Basement	В	Column		Rgt	U column	P	Wood	White	-0.1	QM
20.		Support Colu	**			-						
210	017	Basement		Door		Ctr	U Ctr	P	Wood	White	6.4	ÓΜ
211		Basement	A	Win Frame		Ctr		P	Wood	White	0.4	QM
		Window Frame	<u> </u>									
212	017	Basement	C	Column		Ctr	L column	P	Brick	Green	-0.2	QM
213		Basement	D	Wall	L	Ctr		₽	Wood	Gray	0.6	QM
		Wood Siding										
214	017	Basement	В	Wall	L	Ctr		P	Brick	Yellow	-0.1	QM
215		Basement	A	Wall	ប	Ctr		P	Wood	White	-0.3	QM
216		Basement	A	Floor				P	Wood	Gray	-0.3	QM
217		Basement	D	Door		Ctr	U Ctr	P	Wood	White	-0.1	QM
218		Basement		Wall	U	Ctr		₽	Wood	White	-0.2	QM
219		Basement	A.	Ceiling	-			₽	Drywall	White	-0.5	QΜ
220		Ext-Upper	A	Window		Ctr	Well		Wood	White	1.3	QM
220	010	Room 7 BR 2	**	11								-
221	លាន	Ext-Upper	A	Window		Ctr	Sash	P	Wood	White	>9.9	QM
222		Ext-Upper		Win Frame		Ctr		p	Wood	White	>9.9	QM
223		Ext-Upper		Wall	TY	Lft			Wood	White	>9.9	OM
		Ext-Upper	Ā	Soffit	٠				Wood	White	>9.9	OM
224				Fascia					Wood	White	>9.9	QM
225		Ext-Upper 2nd Fl Deck		Wall	77	Ctr			Wood	White	>9.9	OM
226	OTA	Second Floor			·	- C-1.		_	nood	11.22.00	,,,,	2
605				Window		C++	Well	œ	Wood	Tan	0.2	QM
227	019	2nd Fl Deck To Bath 3	4.	MILITION		ULL	Hetr		NOUG		0.2	MIT
228	010	2nd Fl Deck	В	Win Frame		Lft		p	Wood	White	>9.9	OM
229				Door Frame		Rgt		P	Wood	White	>9.9	QM
230		2nd Fl Deck	A	Door		_	υ ctr	P	Wood	White	-0.6	QM
		2nd Fl Deck				Ctr		P	Concrete	Gray	1.6	QM
232		2nd Fl Deck		Railing			Railing		Wood	White	0.0	QM
232	. 013	Porch Railir		runnag				_				_
233	019	2nd Fl Deck	_	Wall	L	Ctr		P	Wood	White	>9.9	QM
23-	013	Porch Siding	-	,,	_							-
234	010	2nd Fl Deck		Column		Ctr	U column	P	Mood	White	>9.9	QM
239	029	Porch Screen				002	001000	_				~-
235	a r n :	2nd Fl Deck				Ctr		P	Wood	White	>9.9	QM
2,3	V.1.3	Porch Ceilir		ocaaaag								
236		2nd Fl Deck	_	Window		Ctr	Well	ъ	Wood,	White	>9.9	QM
237		2nd Fl Deck							Wood	White		QM
238		2nd Fl Deck			rđ	Rqt			Wood	White	>9.9	QM
		2nd Fl Deck					Railing		Wood	White	>9.9	QM
239	OTA			varrruð		CLL	10000	-	nood	,,,,,,,	73.3	***
		Porch Railin	_	D		C+m	U Ctr	ъ	Wood	White	-0.3	OM
240	020	Ext Side A	А	Door		CLL	O CLL	E	HODG	WILL DC	-0.5	92AA
		Screen Door	_	11		a		n	Wood	White	>9.9	QM.
241	. 020	Ext Side A	A	Wall	υ	Ctr		P	MOOG	MITTLE	79.9	Øøt.
		Siding		1		A1	a 1L	_	Weed	White a	>B A	OM
242	020	Ext Side A	A	Window		ctr	Sash	ħ	Wood	White	>9.9	QM
		Front Porch					~		** A	matter of the	×0.0	o> -
24.		Ext Side A		Window			sill		Wood	White	>9.9	QM
244	020	Ext Side A	A	Win Frame		Ctr		P	Wood	White	>9.9	QM
		Window Frame										
245	020	Ext Side A	A	Door		Lft	Lft casing	g B	Wood	White	>9.9	QM

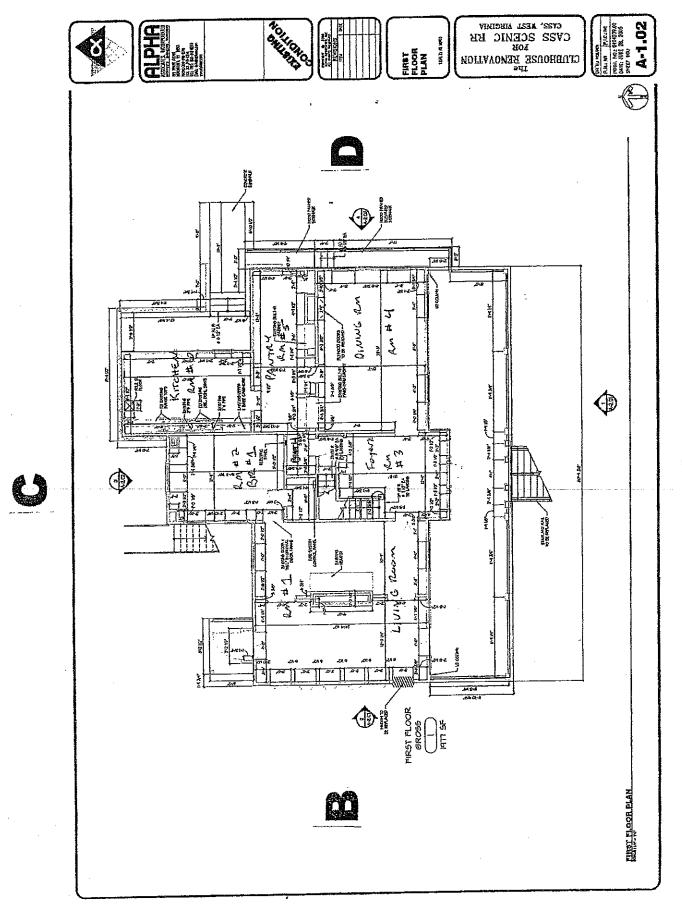
Read	Des	Room					····	Paint			Lead	
No.	No.	Name	Wall	Structure	Locat	ion			Substrate	Color	(mg/cm²)	Mode
NO.	140,	Name										
248	020	Ext Side A	A	Wall	v	Lft		₽	Wood	White	>9.9	QM
		Siding								_		
247		Ext Side A	A	Floor		Ctr			Mood	Gray	4.1	ÓΨ
248		Ext Side A		Railing			Railing		Wood	White	1.5	QΜ
249		Ext Side A	A	Railing			Balusters		Wood	White White	>9.9 >9.9	OM OM
250		Ext Side A	A	Column			U column		Wood Wood	White	>9.9 >9.9	QM
251		Ext Side A	A	Gate Post		Ctr Lft			Wood	White	>9.9	OM
252	-	Ext Side A		Win Frame			Well		Wood	White	>9.9	OM
253		Ext Side A		Window		Ctr			Wood	White	>9.9	QM
254		Ext Side A		Ceiling Support		Ctr			Wood	White	>9.9	QM
255	020	Ext Side A	A.	Pubborc		عربا ب		-	noou	7,2,22 013	,,,,	35
		Porch Suppor		Stairs		Ctr	Treads	Þ	Wood	Gray	0.0	QM
256 257		Ext Side A Ext Side A		Stairs			Railing ca			Gray	-0.1	OM
251	020	Stair Railin		BLALLES				-				_
258	021	Ext Side B	-	Foundation	1	Ctr		P	Concrete	Gray	-0.3	QM
259		Ext Side B	. –	Wall		Ctr		P	Wood	White	3.4	QM
200	UZI	siding	_									
260	021	Ext Side B	В	Win Frame		Ctr		ъ	Wood	White	>9.9	QM
261		Ext Side B		Window		Ctr	Sash	P	Wood	White	>9.9	QM
262		Ext Side B	В	Door		Ctr	v ctr	P	Wood	White	>9.9	QM
		Basement Doo	or									
263	021	Ext Side B	В	Latitice		Ctr		₽	Wood	${ t Gray}$	-0.1	QM
264	020	Ext Side A	В	Latitice		Ctr		P	Wood	Gray	0.0	QM
		Front Stairs	S .									
265	020	Ext Side A	A	Stairs		Ctr	Stringer	₽	Wood	Gray	0.0	QM
		Front Stairs	3									
266	022	Ext Side C	Ç	Supprt Dec	:k	Ctr			Concrete	Gray	-0.4	QM
267	022	Ext Side C	C	Wall	ប	Ctr		P	Wood	White	>9.9	OM
		Siding										
268	022	Ext Side C	C	Door		Ctr	U Ctr	₽	Wood	White	7.9	QM
		To Living Ro		_				_	1	*******		0.5
269		Ext Side C		Door Panel	Ľ				_			
270		Ext Side C	C	Floor		Ctr			Wood	Gray	-0.4	ОМ
271	022	Ext Side C		Railing		Ctr	Railing	₽	Wood	White	>9.9	QM
		Deck Railing	_	D-171		~	Balusters	173	Wood	White	>9.9	OM
272		Ext Side C		Railing Ceiling		Ctr	Darus ters		Wood	White	>9.9	QM
273		Ext Side C Ext Side C	C	Column			U column		Wood	White	>9.9	QM
274	ŧ 022	Porch Suppor		COLUMN		001	o ooluum	_		. ,,	,	
275	. 022	Ext Side C	C	Planter		Ctr		P	Wood	Gray	-0.3	QM
		Ext Side C		Foundation	1	Ctr			Concrete			
276 277		Ext Side C	č		-				Wood	White	-0.1	QM
41	OLL.	Trim behind										
278	023	Ext Side D	-	Wall	ប	Ctr		P	Wood	White	5.2	QM
2	, 023	Siding										
279	023	Ext Side D	מ	Door		Ctr	U Rgt	₽	Wood	White	0.0	QM
		Screen Door					<del></del>					
2B(	023	Ext Side D	D	Door Frame	3	Ctr		₽	Wood	White	>9.9	QM
28:		Ext Side D	Ð	Window		Ctr	sill	₽	Wood	White	>9.9	QM
282		Ext Side D	Ð	Window		Ctr	Sash	P	Wood	White	>9.9	QM
283	023	Ext Side D	D	Ceiling		Ctr		₽	Wood	White	>9.9	QM
284	1	CALIBRATION									-0,1	TC
28!	5	CALIBRATION									-0.3	TC
286	5	CALIBRATION									-0.2	TC

Read No.	Rm No.	Room Name	Wall	Structure	Location	Member	Paint Cond Substrate	Color	Lead (mg/cm²)	Mode
		CALIBRATION							0.8	TC
287		CALIBRATION						•	0.8	TC
288									0.8	TC
289	}	CALIBRATION		End o	f Reading:	ş				

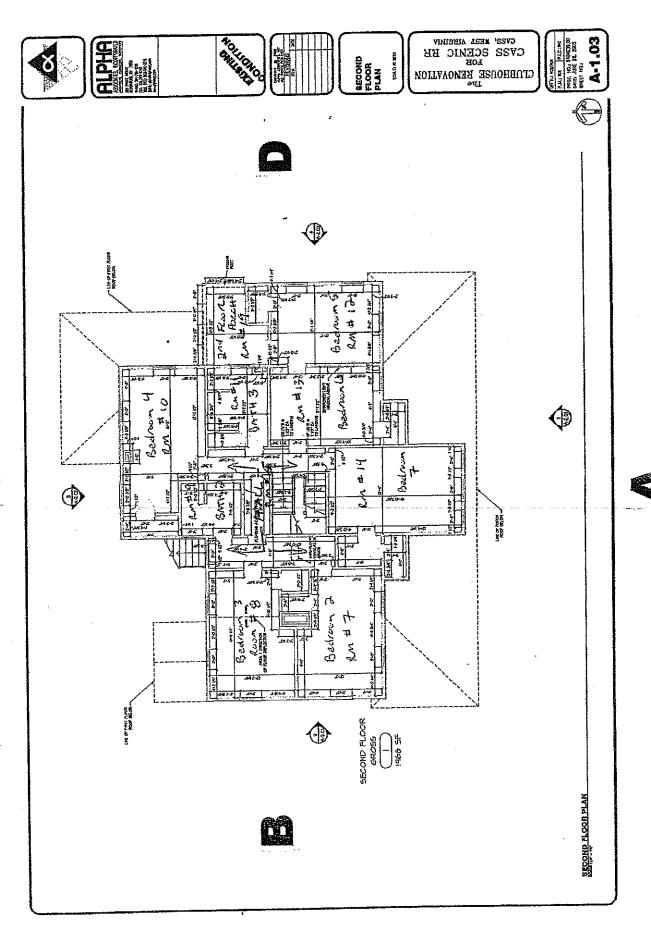
APPENDIX III

**Site Drawings** 

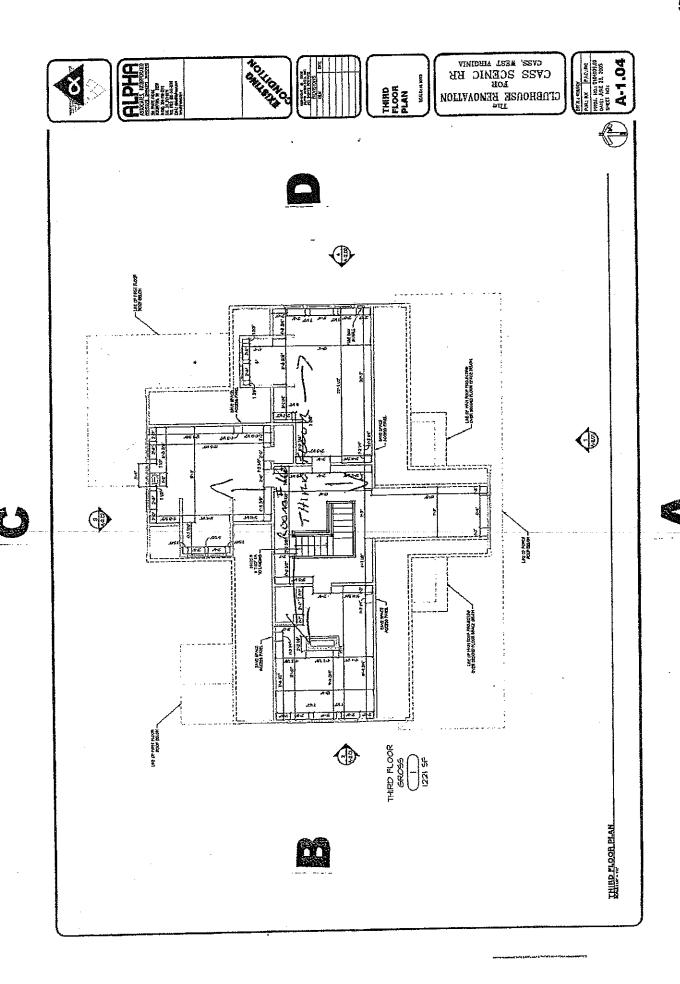




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## APPENDIX IV

# **BEC** Personnel Accreditations



**WEST VIRGINIA** 

Lead Program

Patrick F. Kirby

IS LICENSED AS AN

LEAD RISK ASSESSOR

License#.

PA000090

Issued:

8/24/2004

Expires:

8/31/2005

Randy C. Curtis Dir., WV RTIA DIV



#### **WEST VIRGINIA**

Asbestos Program

Patrick F. Kirby

IS LICENSED AS AN

ASBESTOS INSPECTOR

License #:

AI003461

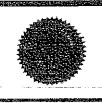
Issued:

3/14/2005

Expires:

3/31/2006

Randy C. Curtis Dir., WV RTIA DIV



#### **WEST VIRGINIA**

Asbestos Program

Jonathan Anderson

IS LICENSED AS AN

ASBESTOS INSPECTOR

License#.

A1003373

issued:

1/20/2005

Expires:

1/31/2006

Randy C. Curtis Dir., WV RTIA DIV